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An Address.[1]

By HUBERT M. JAY,

Retiring President of the South Australian Branch of the British Medical Association.

IT has been truthfully, if somewhat cynically, stated that medical speakers fall into two classes—those who think they have something to say and those who think they have to say something. I confess that I feel precariously attached to the latter class, as my only excuse for addressing you is the fact that I am your retiring president.

In the present state of medical affairs, not only in Australia, but also in England, there is much that might be said by way of emphasis, but little that can be said which has not received full consideration by the large majority of medical men. In consequence I see stretching before me this evening an expanse of platitudes which will probably neither enlighten nor entertain you. Nevertheless, since your retiring president of last year, Dr. E. A. H. Russell, delivered himself of his most excellent and inspiring address, the situation has not been entirely static, and perhaps I may take up the threads where he dropped them, even if I run the risk of marring the pattern by an unorthodox design.

As a prelude let me say that one thing never ceases to be a source of amazement to me, and that is the apparent indifference of the public to what is going on. With medical politics and talk of the threatened dismemberment of professional life, as we have come to know it, occupying so much of the time of the Federal Government, it is only reasonable to suppose that the guinea-pig of the piece would have been loud in its protestations or expressions of approval as the case might be. In point of fact, however, the public appears to be displaying the utmost indifference to what is going on, and I, for one, find this singularly disconcerting. Letters there are in plenty on those subjects concerning which there is unanimity of opinion between the Federal health authorities and the medical profession, for example, housing, venereal disease and tuberculosis, but in regard to the possible future relationships between the man in the street and his medical adviser, we find nothing but a stony silence. Can it be that, with the unfortunate example of the *Pharmaceutical Benefits Act* before them, they still have such faith in their political medical planners as to believe with our old friend Candide that "all will surely be well in this best of all possible worlds"? Heaven forbid—there must be some other explanation, and I can only conclude that they are not informed. There has not been enough Press publicity. Even that wholly admirable discussion put over the air as a "Nation's Forum" feature evoked no comment in the local Press. I would say: "Wake up, public—you are the body chiefly concerned—let us hear what you have to say about it." You may reply: "Well, we have had a gallup poll and the result was that 52% of those questioned were in favour of 'free medical advice'." Please note the phrasing though—"free medical advice". What an unfortunate phrase. Let us have no more talk of "free this" or "free that". Nothing is free except the air, for the phrase implies that you get something for nothing, that you can take out of the bucket more than you put in it. It is very nice propaganda, but as a means of arriving at any reliable decision on the acceptability of the Government's proposals, it is not quite cricket. In any case, who wants anything free? I may be mistaken, but my experience of the average

[1] Read at the annual meeting of the South Australian Branch of the British Medical Association on June 28, 1945.

patient is that he considers the labourer worthy of his hire, and the only persons to whom free treatment should be made available are the indigent. Of course, there is always a small and sometimes clamant minority of those who identify the right to live with the privilege of doing nothing whatever to justify their existence, and these would vote for a "free anything". I submit to you though that this gallup poll would reflect only the views of those interviewed if the question asked had been quite differently phrased. As set out the question was: "If under a national service you were entitled to attend a doctor free of charge, would you do so?" You see the accent is on the "free of charge". The fact that the patient is being heavily taxed to meet this service is not mentioned. I submit that the question should have been: "Are you in favour of a government-controlled medical service available to all and paid for by taxation?" I may be wrong, but I think that the percentage in favour would not have been quite so high in these circumstances; even in gallup polls let us stick to facts. There is no free medical service. All that is envisaged is a government controlled service which shall be less adequately rewarded for its work than it is at present.

And so we come to the outstanding fact that has emerged from the negotiations between the Government and the profession. Medical men will have nothing to do with a whole-time salaried medical service applied to the rank and file of the profession. Regarding this I shall not discuss in detail what has been said so often regarding that impossible scheme evolved by the National Health and Medical Research Council, but shall only say that, apart from the fact that it is quite unworkable in its original form, the medical profession has a deep and firmly rooted distrust of the bureaucratic control which inevitably would be associated with it. In the interim the Federal Council has laboured and has, I am glad to say, brought forth an expression of policy which must surely meet with the approval of all practitioners. I feel sure that you would agree that this pronouncement, if made available to you, is a vindication of the attitude always adopted by your Council, that the Federal Council, having the pulse of the profession at its finger-tips, and being well informed of all shades of medical opinion, is the only possible body to speak for the British Medical Association as a whole. It has done a grand job in this respect, and our wholehearted thanks and support should be tendered to it. Unfortunately, for some reason which is obscure to your Council, this policy has not yet been published. If ever the time were opportune for an expression of its views by the profession, surely this is the moment. We have a policy approved by the Federal Council and, so far as I am aware, by all the Branch councils—and the public is still uninformed. Your council has urged the Federal Council to act—so far without result. Apart from this I would urge you to place your faith in the judgement of the Federal Council regarding that legislative extravaganza, the *Pharmaceutical Benefits Act*, and to follow the advice given, non-cooperation with the act in its present form. I doubt very much though whether many people realize the subtlety with which this act is being introduced. It is definitely tendentious in its present form. It is all designed for one purpose—the gradual elimination of the freedom of the medical profession.

Other considerations apart, from the point of view of the poor taxpayer, this act becomes more and more of a menace. The rocketing costs to the New Zealand Government of medicines and attention under their scheme must surely be giving the Federal Government a pharmaceutical headache. Whereas the original average cost of a prescription was 2s. 10d., it is now 4s., and the Director-General of Health says that this increase "was a cause of much concern to the Government". He does not say what the taxpayer thought of it; but it is statistically stated that the cost of medical benefits has risen from £563,247 in 1943 to £762,199 in 1944, an increase of over 30%—so the Federal Government wants to bind us down to a formulary lest it should find itself in a similar position.

Consider then the six shillings per day bed payment for hospital patients—all and sundry admitted to general hospitals, a refusal by the profession to accept them without payment for service—and then you have a part-time salaried service (government-controlled).

We must watch this very, very carefully so that we are not led into error—it is just one more straw in the wind. Apart from this aspect, the encouragement of the public to seek hospital accommodation when none is available is a most outstanding example of inconsistency. If a bait must be dangled before our eyes, what is wrong with building a few more hospitals first and then doing the dangling?

The next move, I suspect, now that the Government has sensed the opposition of the profession to its free medicine (in the wider sense of the term) proposals, will be the introduction of health centres. These measures are but stepping-stones from medical practice as we know it, to controlled medical services, or as Monaghan has it in his excellent pamphlet, "The Problem of the Medical Profession", from democratic to totalitarian medicine.[1]

Regarding health matters in which definite policy has been accepted and is in process of developing, we must express approval of the plans made to deal with the housing shortage, venereal diseases and tuberculosis, but it still appears to me that the burden of dealing with the last mentioned will remain largely a State liability. The recent decision of the Federal Council to urge the Commonwealth Government to grant adequate pensions for tuberculosis patients meets with the wholehearted approval of your council. We sincerely hope that it will materialize.

In South Australia we are fortunate in having a government which has now evolved a very comprehensive scheme covering investigation by widespread X-ray examinations, adequate sanatorium treatment, examination of contacts, sustenance allowances and industrial colonies. As this scheme envisages the expenditure of £170,000, whereas the Federal grant is only to be £20,000, it will be seen that the State will be nursing the baby. In this connexion we could well do with some of the £3,000,000 or more to be spent on medicine under the *Pharmaceutical Benefits Act*. One feature of the plans mentioned has not met with the approval of your council—the proposal to spend £50,000 on creating a series of small tuberculosis wards attached to country hospitals. It is felt that proved tuberculous patients should be sent to a city centre for specialist treatment—and this aspect of the question has the unqualified support of those country practitioners who have been asked to express their views on this proposal.

Unfortunately, the rosy vision conjured up by these plans is but a vision. We are assured that only the lack of manpower prevents a start being made, and the Federal Government, being appealed to, wrings its hands and says: "Please let us alone, we are helpless"—a statement with which no one would be inclined to disagree.

Again, we have the problem of the tuberculous ex-servicemen. What is to become of them? At present all patients from Victoria, New South Wales and South Australia are being concentrated in one military hospital. What must be the psychological effect on many of these unfortunates (particularly those with compassionate reasons for retention in their home States) separated as they must be from their friends and relatives, in unfamiliar surroundings and with an uncertain future before them, I leave to you to imagine. Are our local men to wait until the war is over before some first-class provision is made by the Repatriation Department for their treatment in their home State? It looks like that to me.

Roughly the position is this. We have two overcrowded wards at the Repatriation General Hospital, with patients sleeping on the verandas, and one small convalescent home recently opened at "Birralee". Sanatorium treatment in the ordinary sense of the word is not available. There is a hospital which should be reserved for very sick men and a home for convalescents. What is to happen to the large number who, on discharge, are found to have demonstrable lung lesions in a curable stage—men who went into the

[1] Since these lines were written there has been published in the daily Press an announcement that the Federal Government intended starting a health centre in each of the capital cities. I did not expect my prophecy to be confirmed so rapidly.

army fit and came out with early pulmonary tuberculosis? Where are they going? The answer to this appears to be that they are not going anywhere, because the Repatriation Department has nowhere to put them—they are staying at Bonegilla.

This brings me to the larger issue of the treatment of the repatriated men and women of the services who, above all, deserve the best attention that can be given them. I do not suggest that the present medical service is not good. It is good; but on the above-mentioned principle that "only the best is good enough" I think you will agree that it could be considerably improved. I respectfully submit for the consideration of the federal authorities the suggestion that the department is understaffed by whole-time highly qualified medical men and I can definitely state that the out-patient department is a nightmare to those who have to deal with it. Here surely is an opportunity for a highly paid (and when I say highly paid, I mean highly paid), highly qualified service which would be accepted gratefully by public and profession alike and would form a background for the present skeleton staff, besides being a sound financial proposition from the point of view of the Government.

Whatever the situation in the other States may be, I think you will agree that with the present method of staffing in South Australia, the greatly increased medical work of the department caused by the second world war cannot be dealt with adequately. (I stress the word adequately.)

You cannot offer a salary of £1,000 and expect to get a really highly qualified physician or surgeon on a whole-time job—but offer £2,000 and probably you would get them—and I think it would pay the department handsomely to do this. Unfortunately the Government's idea is not to pay high salaries to highly qualified medical men—that is, if we are to take the scheme of the National Health and Medical Research Council as a guide—but rather to pay as little as they can and chance what they will get.

Medical men with high surgical and medical qualifications who will be discharged from the forces in the (we hope) not far distant future, could here find an opening for their knowledge of the serviceman and his disabilities which has been acquired during the period of hostilities.

And so I come to the problem of the reestablishment of our medical men. As hostilities drag on, the services are becoming more and more staffed by younger men who have gone straight from a period of six or nine months spent as house surgeons, to work which is very different from that of private practice. All credit must be given to the military authorities for their efforts to give them hospital experience and the necessary wider outlook on their profession; but the fact remains that out of 180 men from this State who are serving at present with the forces, approximately 100 have no practice to which they can return. In this regard your council has done excellent work in circularizing those concerned to find out their plans for the future, and in making searching inquiry amongst those in civil practice regarding possible openings for demobilized medical officers. The result has been the production of some very interesting figures. A University Committee for Post-Graduate Work and an Advisory Committee to consider the problems of individuals have been formed, and the situation seems to be well in hand. To those men who are giving their time and energies to this problem we offer our sincere thanks. It is a great work with but little reward. My only hope is that the old saying that "too many cooks *et cetera*" will not be found relevant in this case. It seems to me that we need a good deal more clarification of the functions of the various bodies concerned.

There are many other topics of interest to us all on which I might touch—maternity services and accommodation, infant welfare, housing *et cetera*—but time does not permit. One thing, however, I feel that I must mention, as it appears to be almost the Cinderella of medicine in Australia, and that is research.

In regard to this I think you must agree that our imaginations were stimulated and our hopes given fresh impetus by the visit of Sir Howard Florey. We find that this is countered by a grant of £25,000 by the Federal Government for research. This would be a magnificent gesture if it were allotted to one State; but for the whole Commonwealth it is little short of pathetic. And still the *Pharmaceutical Benefits Act* with its £3,000,000 or more expenditure goes on.

And now I would remind you that we stand at the cross roads. The future of the profession of medicine, as we have come to know it, to love it and respect it, lies in our hands. Those of us who perforce have had to give thought to the future realize that any revolutionary change is fraught with disaster for the public and the profession. If change must come, let it come gradually, hand in hand with a change in social conditions which may necessitate it; but in the meantime let us present a solid and united front against the revolutionary plan envisaged by a Government which holds no mandate from the people to alter the *status quo*—a people which, I feel confident, desires no change. I would say to you that nothing I have read since this question of national medicine has arisen, has impressed me so much as Monaghan's pamphlet. It is not only a warning to the medical profession, but it sets out clearly the issues which face society generally. Those of you who have not read it would do well to waste no further time. Having read it, you will agree with me that the only thing that renders a revolutionary change in the relationship between patient and doctor inevitable, is your acceptance of its inevitability. The more I think over this matter, the more aware I become of this. Now is the last chance the medical profession has of retaining its independence. Let us study each proposal of the Federal Government, whether overt or open to suspicion, with the one object in view—the maintenance of our individualism and independence. If we surrender these things now, we surrender them for good; and our children will inherit the results of our folly. We shall all become, whether we like it or not, government servants. Let us therefore, as a united profession, present a solid front and fight for the one thing which we feel is the key to a successful medical service—the maintenance of the present doctor-patient relationship.

In conclusion, let me say that we meet in an atmosphere of thankfulness that the war in Europe is over. No section of the community has given more unswerving or unselfish service to the cause for which the United Nations have been fighting than the medical profession. We are proud of our medical officers and we look forward to welcoming them back at a not far distant date from service in the as yet unfinished Pacific war.

POVERTY, HOUSING AND HEALTH.[1]

By W. Oswald Burt,
Member of the Victorian Housing Commission.

I do not suggest for one moment that this great land of sunshine and open spaces is not one of the most promising on earth. What I do say at the outset of this address is that, despite the great natural riches and resources of this country, we can with truth speak of the great poverty of the masses of our people. I know that many present will not accept that general statement. By reference to a few statistics I propose to establish my proposition. I expect to be able to convince you that the greater proportion of the Australian nation under our present economic system is too poor to afford standards of housing such as one would, in these days, expect in a Christian community. I intend to show that the financial strain of acquiring a decent home by purchase or renting is such that for many hundreds of thousands of our families, it can be accomplished only by a sacrifice of the other essential needs—food and clothing. Under prevailing economic conditions, to move a family from a poor or substandard home to a better one is merely to substitute one form of hardship for another.

[1] Read at a meeting of the Victorian Branch of the British Medical Association on May 2, 1945.

In the cheaper and maybe substandard home, they are without the advantages of modern hygiene; but they may have at least sufficient money to enable them to purchase the minimum needs of food and clothing.

The title to this address points a sequence of causation striking at the very vitals of our national existence. My thesis is that our people, under the present economic system, are in the main too poor to afford decent housing. Poverty means bad housing, and bad housing inevitably means a lowering of our standards of national health. Truly it has been said that the soul and the future of a nation are in the homes of the people.

Poverty.

The problem of the slums is largely and essentially a problem of poverty. The family is the slum potential. The family standard depends on moral qualities and material possessions. Lack of either may produce a slum; lack of both will certainly do so. There are, of course, other factors which go to make the slum. In many instances it is neither the low moral qualities nor the poverty of the tenant. A rapacious and soulless system of landlordism must take much of the blame. Investigations have shown that the slum tenant does not necessarily make the slum. It cannot be said, for example, that the slum tenant is to blame for the 49 houses to the acre in a part of South Melbourne and for other similar conditions; nor can the slum tenant be blamed for the existence of thousands of so-called houses facing so-called streets ten feet wide.

No, the very essence of the slum problem, and indeed of the housing problem, is economic. The problem of the slum dwelling is largely the problem of the tenant who is unable, by reason of his low wage or the number of his dependants, to pay the full economic rent of a dwelling affording reasonable standards of comfort and decency. Economically the slum problem is the wage problem, and a solution must be found either by increasing the earnings of the persons concerned or by providing houses at lower rentals.

Thousands of our citizens, stricken by unemployment and sickness and by reason of their low earnings, have been compelled to live in houses unworthy of the name. At the other end of our economic system there is a not inconsiderable section, consisting of allegedly worthy citizens, members of Parliament, leaders of public life, some ministers of religion, professing Christians and others, who are ready to exploit the sub-economic tenant. I invite you to peruse the list of owners appended to the report (1937) of the Housing Investigation and Slum Abolition Board.

In 1936, the Board, of which I was a member, found that there was then within the inner suburbs of Melbourne a shocking traffic in human misery; that rentals of slum tenements, invariably exhorbitant, had progressively increased, and that the slum dwelling had been used as an instrument for the shameful exploitation of the poor. Another factor in the problem recorded was that as the "market" for slum houses depended upon rental return, successive purchasers were accustomed to increase rentals with a view to capital appreciation on sale.

Before I proceed to deal in greater detail with the problem of poverty and its relation to housing and to the health of the community, it is perhaps well to pause a moment and consider what preventive role the medical practitioner has played in the tragic sequence of poverty, bad housing and impaired health of the community.

Recently the proposition was stated succinctly by Dr. E. P. Dark in a luncheon hour address given by him. Dr. Dark made the following statements:

> Modern medicine proclaims that prevention is its chief purpose; but so far its preventive measures have been applied too far down the chain of causation. In curing disease, as well as in preventing disease, we have been taught to search for causes and where possible to remove them. But our search has been content to stop too soon. We have been content to look on the tubercle bacillus as the cause of tuberculosis. But the causes of tuberculosis are much more than the tubercle bacillus. That is only the seed: besides the seed there are not only the conditions that favour the production of the seed, but also the soil, and the conditions that make it receptive to the seed—malnutrition, overwork, industrial fatigue, overcrowding, lack of sunlight, ignorance. All these together constitute the causes of tuberculosis.
>
> So far our imaginations have been too much captured by the fascinating picture of microorganisms as the great enemy of health, and our idea of prevention too much dominated by Schick tests, and Dick tests and Mantoux tests, and the injection of vaccines and sera, all very necessary and useful, but only the opening chapter in the long story of prevention. The remaining chapters will be under the heading "Removal of Social Causes of Disease", and to write those chapters quickly will be the most important task of post-war medicine.
>
> To do it effectively medicine must concern itself with every condition of living and working that militates against perfect health.

Few will quarrel with Dr. Dark's lucid statement of the problem. It may be that Dr. Dark has pointed a new charter for the medical profession. By way of emphasizing his thesis, Dr. Dark pointedly makes this suggestion: "Poverty will be a good point at which to begin the inquiry; we all know that it is a cause of much disease and death, but do we realize how much?"

When I have mentioned the problem of poverty to my friends, I frequently have been met with the following impatient answer: "There are no poor, and if there are it is a well-merited fate. It is just so much nonsense to talk of poverty in a country like Australia, there is no real poverty here. In fact the Australian worker is the best off in the world." To deal with the last part of this statement first, it should be noted that the Australian worker is not the best off in the world. I invite you to read "The National Income of Australia", by Colin Clarke, M.A., and J. G. Crawford, B.Ec. If the complete trade cycle for the years 1925 to 1934 is taken, a table of the average real income per head of the entire working populations for the leading countries of the world, unemployed included, places Australia sixth on the list, well below the United States of America, Canada, New Zealand, Great Britain and Switzerland. The learned authors point out that over ten years the average income in England had shown rapid growth, while the average income in Australia had shown slow growth.

Even at the risk of wearying my audience I propose shortly to give you some statistical information. I shall take Dr. Dark's advice that poverty is the point at which to begin our inquiry. What was the position in Australia at the time of the 1933 census? The following state of affairs was established. (i) More than three-fifths of the male breadwinners (twenty years of age and over) were earning less than the basic wage, which was then, mark you, £3 4s. 2d. per week. (ii) In fact, of the married male breadwinners in the Commonwealth, 23% received less than £1 per week, 37% received less than £2 per week, 50% received less than £3 per week, 65% received less than £4 per week, 78% received less than £5 per week; thus over 60% of all adult male breadwinners received less than £3 per week, and 83% received less than £5 per week. (iii) If our statistics are brought forward a few years, (*a*) in 1936 the average total family income of families occupying 2,500 houses due for demolition within a radius of five miles of the General Post Office, Melbourne, was £2 10s. 4d., the earnings of parents and children being taken into account; (*b*) later, in 1943 (see the report of the Commissioner of Taxation), 85% of those paying income tax received less than £500 *per annum*. We well may ask ourselves whether, when 1,250,000 of our citizens are released from the services and essential war industries, we may find a greater percentage receiving less than £500 *per annum*. That will depend on just how much wise planning is imported into the transition to normal civil life. Are we to go back to the poverty-stricken era of the early thirties?

I do not intend to weary you with further statistics. In Dr. Dark's words, "let poverty and not the Schick test be the starting point in our inquiry". During a hundred years an industrial revolution has produced a feverish elevation of profit-making—production for profit and not for human needs. In the words of a well-known writer on social subjects:

> Prior to the war the modern world was wealthier than it had ever been before, and yet we were head and ears in debt, we feared financial collapse and bankruptcy, and millions were undernourished. We were so wealthy that we were in danger of starvation. We feared to produce too much wheat and cotton and to breed too many sheep lest we want for bread, meat and clothes. To stimulate employment we were advised to restrict output or destroy surplus production. We were to cure our poverty by destroying God's bounty and making ourselves really poorer.

In the past, government policy, in its desire to bring immediate relief to producers, has adopted the short-sighted policy of endeavouring to reduce supply so as to balance the lower level of demand brought about by low earnings of the masses. This is a vicious circle. In a better order of society it will be desirable to encourage production by bounties to consumers and not producers, in the knowledge that in the ordinary course we shall provide a full diet for all our people. It must be obvious to you from the figures I have given in relation to the poverty of our people that, in present conditions, decent housing is beyond the financial capacity of more than 50% of our people.

It has been stated authoritatively of the lower income group in the community that a family man may not (i) purchase a home costing more than double his annual income, (ii) rent a home at a weekly rental of more than one-fifth of his weekly wage (the latter not being less than the basic wage), without endangering seriously his requirements for food and clothing and the other bare essentials of living. If we apply those tests to our own people it will be seen how few are really able to purchase a home or even to rent one, and at the same time to have sufficient income to provide the other necessities of decent living.

Today the total cost of building a three-bedroom house, with living room, kitchen and bathroom, is £1,095 in brick, £905 in timber and £910 in concrete. Add to each the cost of land, say £250, and of a hot water service and refrigerator, say £100, and you have a brick home costing £1,445, a timber home costing £1,255, and a concrete home costing £1,260. On a twenty-one years' contract (with interest at 4%—the new post-war rate) it will take 2s. 9d. per £100 per week to complete the purchase of the home. In addition, the purchaser must find, at the outset, stamp duties (£12) and legal expenses, and periodically rates and taxes, insurance premiums and maintenance and repairs. A conservative estimate of the total weekly outlay for a brick home is £2 10s. How many in the community will be able to afford that?

Doubtless many of you have read "Poverty and Public Health", by McGonigle and Kirby. If you have not, I invite you to do so. The authors tell an interesting story of the transfer of a population from slum dwellings to a modern self-contained housing estate, and kept intact without admixture from other populations. For research purposes there was a comparable population which continued to dwell in slum houses. The houses in the new estate were carefully planned and well built, with up-to-date sanitary conveniences, a bath, well-ventilated food store, wash boiler and so on. The rents of the new homes were double those paid for the slum houses. Over a period of five years there was an increased mortality percentage among those removed to the new houses, and the learned authors conclude: "It is difficult to come to any other conclusion than that the increased mortality was associated with dietary deficiencies." In other words, increased rentals charged for better housing meant less money in the family budget for necessary food. The provision of better housing merely substituted for the hardship of poor housing the greater hardship of malnutrition.

It is, of course, realized that crude death rates do not ordinarily supply a reliable basis of comparison unless age and sex distributions also are comparable. The results are nevertheless interesting.

It seems, therefore, that the poverty of our people produces a paradox. If many of our people are left in the slums we shall reap from filth, squalor and ugliness a national harvest of poor citizenship and bad health. If, on the other hand, we remove our people from the slums and place them in better houses, the rentals of which are beyond their capacity to pay, we merely substitute one form of hardship for another. We provide cleaner and more hygienic surroundings and at once make it impossible for the people to pay rent and at the same time have sufficient wherewith to purchase adequate food and clothing and the other necessities of life.

Rental Rebates et cetera.

I shall now explain shortly how, pending the solution of the problem of poverty, it is hoped to deal with this paradoxical problem of housing the sub-economic section of our people. If we are to adhere to orthodox ideas of financing the sale of houses, it is apparent from the figures I have given that a comparatively small section of the community are potential home-owners. Hence, in the post-war period I expect that most people will rent rather than purchase their homes. Although it is desirable that people should own their own homes, it is questionable whether they should be encouraged to purchase houses built at high cost during the war period. If building costs recede, then purchasers will lose their equities as they did in the depression of the "thirties". That will be calamitous to the idea of home ownership. In Tasmania an attempt has been made to encourage home purchase by the State's writing off 25% of capital cost so as to bring the purchase within the reach of the lower paid group of wage earners. In the absence of some such arrangement in Victoria we must contemplate the building by the State of a large number of homes for letting.

Already this State and the Commonwealth have realized that the cost of building decent houses is so high that most people, in normal times, will be unable to pay a full economic rent. If, therefore, we are to have a higher standard of housing for all—and particularly for those who by reason of their low earnings are unable to afford such standards—the State will not be able to charge the full economic rent to its tenants; hence the system of rental rebates agreed on between the Commonwealth and the State of Victoria.

Shortly it is intended to charge rebated rentals for State houses as follows: (*a*) if the weekly family income is not greater than the basic wage, then the rent shall be not more than one-fifth of the family income; (*b*) if the family income is less than the basic wage, then the rental rebate shall be progressively greater; (*c*) if the family income is more than the basic wage, then the rental rebate shall be progressively reduced. For the purposes of calculation, "family income" will include the total of the following: (i) the average weekly income from all sources of the main breadwinner; *plus* (ii) two-thirds of the average weekly income from all sources of the spouse of the main breadwinner; *plus* (iii) one-third of the weekly income from all sources of each child. It will be seen that the rental rebate system endeavours to relate rental to the earnings of the tenant and his family, and not, as is ordinarily done, to the capital cost of the house.

This is an acknowledgement (*a*) that every citizen is entitled to a decent house irrespective of his earnings, and (*b*) that the State recognizes housing as a social service, which, like education, hospital services, police protection and the like, requires to be subsidized from the public purse.

Housing.

What is housing? I have given you some conception in broad outline of the poverty of our people and have indicated the difficulties to be faced in providing decent housing for the people. It is perhaps desirable that we should at the outset inform ourselves of what is really meant by housing.

To build houses for the many needing them and to house the nation are not identical concepts. The building of houses for shelter is not housing in its real sense. Housing is an integral part of living and means not only the building of houses, but also the provision of home environment. The housing of the people in its broader and proper sense is a social science. It is more: it is an essential social service.

In Victoria, until 1937, our housing legislation consisted of an uncoordinated, half-hearted, unplanned provision of shelter for those fortunate few who could afford to pay inordinately high capital cost or exorbitant rentals. Various statutes had been passed to ensure sanitation. Legislation was mildly palliative and not preventive, and down the years the slum menace was growing apace. Until recently there has been an entire lack of conscious endeavour to create home environment as houses were built. Houses rather than homes were being built indiscriminately—just anywhere, regardless of social consequences. Houses were provided on the commodity principle, being built purely for profit-making and without any social purpose. Our whole approach to housing was of the mercenary "bricks and mortar *cum* profits" variety. The real and only purpose was to provide some form of protection from the elements and a form of profitable investment for the investor. With the passing of the Victorian act of 1938 there emerged, as a result of persistent efforts by a few much-abused enthusiasts, a new conception of housing.

In 1938 there dawned for the first time upon the people of this State the realization that the problems of the slum, of the sub-standard house and of the housing shortage were to a large extent the poverty of the people. Only in the last few years have we learned anything of the economics of housing.

The Housing Investigation and Slum Abolition Board of 1936-1937 made a special survey of 7,330 houses inhabited by 24,961 men, women and children. There were 10,847 children condemned by the circumstances of their environment to worse than physical death — to slow warping influences of poverty, to filthy conditions and to other evils and dangers too dreadful to contemplate. Of those 7,330 houses, approximately 1,000 only were tolerably fit for human habitation. The average weekly family income of 2,500 of these families was £2 10s. 4d. per week. Obviously these people were not potential home-owners. It is equally obvious also that they could not pay the full economic rent of a decent house. They are the sub-economic element of the community. Of the houses surveyed, 18% were vermin-infested and 39% were rat-infested. Overcrowding in houses was appalling. Overcrowding of houses on the site was equally bad. According to accepted standards, five to seven houses to the acre are as many as reasonably may be permitted. Table I shows the densities discovered in parts of the suburbs named. Children comprised 43% of the inhabitants of these houses, and 22% of those children over fourteen years of age were then unemployed.

TABLE I.

Suburb.	Houses to the Acre.
Carlton	40 to 50
North Melbourne	46
Fitzroy	48
Collingwood	32
South Melbourne	43
Richmond	33

Time does not permit me to paint in greater detail the poignancy of a spectacle which is a standing disgrace to any community which calls itself Christian. I have said sufficient to draw your attention to the sub-economic field of housing.

There are, of course, other fields of housing—houses for sale to prospective home-owners, houses to let to economic tenants, and houses for special classes, such as the aged, persons living alone and the like, and, above all, the provision in association with houses of all those amenities which turn houses into homes. I refer to ample play and recreation grounds, open spaces, shopping facilities, transport, water, sewerage, electric power, pre-natal clinics, baby and general health centres, kindergarten, primary school, community halls, facilities for arts and crafts, libraries, boys, and girls' clubs and cultural activities. All these are included in the new conception of housing.

Housing Shortage.

In Australia today we are 300,000 houses short and 1,250,000 Australian citizens are inadequately housed. In Victoria there is a shortage of 80,000 houses and 300,000 Victorians are inadequately housed. How and when did this shortage occur?

During the depression years (1930 to 1936) there was a marked falling off in the building of houses, only 1,500 houses *per annum* being erected. Immediately prior to the war 8,000 houses *per annum* were being built in Victoria. During those depression years thousands of building craftsmen were out of employment, materials were in full supply, surplus capital was awaiting investment and the housing position gradually grew worse.

Private Enterprise.

Private enterprise, in the investment field, has failed lamentably to provide the community with houses, and we must expect State enterprise to take a greater share in providing housing as a social service. Most of the arguments hitherto directed by the building industry against State housing have been based on prospective detriment to the building industry. There has been a tendency to overlook the fact that an industry which depends on the supply of a community service has certain responsibilities to the community.

In a state of emergency it is part of the duty of the State to ensure that its citizens are provided with food. Failure means famine and death. Shelter is just as essential as food. Failure to supply it visits on the community evils more subtle than and in the last analysis just as destructive as starvation. If, therefore, private enterprise fails wholly or partially to supply shelter, it is the duty of the State to do so. The susceptibilities of a particular industry cannot and must not stand in the way.

If, as I believe, private enterprise in the building industry is desirous of indulging in a little soul-searching to enable it to face the demands of the future, I, in sorrow rather than in anger, prefer the following indictments:

1. In the past, private enterprise has failed to provide houses on the commodity principle with the realization of a public service, and the cost to the community has been excessively high, measured from every point of view—financial, social and amenity.

2. When housing becomes unprofitable, private enterprise ceases to function, quite regardless of the social effects of cessation of activity. If housing becomes profitable owing to a rise in real estate values and interest rates, private enterprise provides houses in quantity, irrespective of demand.

3. If private enterprise had any other source of investment which would render the same yield with less effort, it would place its capital in that investment.

4. If private enterprise had any reason to believe that housing would not, over a period of years, be profitable, it would substitute more profitable sources of income.

5. In all its activities, the main question—namely, the provision of houses, or rather homes, as an essential public service—is not taken into consideration.

Have you ever heard of the speculative subdivider of land for building reserving land for open spaces, playing fields and the like? No. There is little or no social purpose in profit-making.

What I have just stated relates to the building and the investment fields. *The Economist* of July 29, 1944, states the problem shortly:

> The problem is one of the relation between working class incomes and the cost of housing, whether in the form of rents or purchase instalments. The real reason why many working class families were poorly housed before the war is that they did not possess the resources to command better accommodation, or more precisely, that they could not have spent more on housing except by stinting themselves of food, clothing and other necessities and amenities. The argument that the working classes would have been better housed if they had been disposed to spend a bigger proportion of their income on housing, merely begs the question. It is the consensus of medical opinion that the consumption of food and, to a lesser extent, of clothing is also below modern minimum standards.

No one will accuse *The Economist* of deliberately leaning to the left. The truth is that the most serious limiting factor in the provision of decent housing has been the high interest rate. Housing in the post-war period is to be based on a 4% interest rate. My own view is that 4% is excessive and that 3% (or less) should be charged to the community, the Treasury making up the additional 1% as part of its contribution to an essential social service.

There is a tendency to attribute the high cost of housing to rising wages in the building industry. Nathan Straus, in his "Seven Myths of Housing", has exploded this fallacy. Sir E. D. Simon, working on the assumption that the cost of a house consists of labour 40%, materials 54%, and overheads 6%, comes to the following conclusions: (i) If the cost of labour is doubled, the net rent is increased by 28%; (ii) if the cost of materials is doubled, the net rent is increased by 37%; (iii) if the rate of interest is doubled, the net rent is increased by 70%. Nathan Straus also points out that two-thirds of the housing hitherto produced by private enterprise is built for the upper income group and one-third for the middle income group, and three-fourths of the middle income group are concentrated in the top half of that group. Private enterprise provides very few homes for families in the lower half of the middle income group. He concludes:

> These facts, unpleasant though they be, should serve to clarify the housing picture. No conceivable change in economic conditions after the war will put enough into the pockets of the families in the lowest income group to enable them to afford good housing. Those families, one-third of the nation, comprise the population of urban and rural slums. They constitute the great unsatisfied housing market.

The housing problem is essentially an economic problem, a problem which will be solved when, and not until, we solve the problem of poverty. We have long realized that such is the case in relation to slum and blighted areas. Have we realized, however, that the problem of poverty so affects probably at least one-half of our people?

My own view is that in the post-war period there must be a stringent control of interest rates. Even at the risk of appearing to intrude on what may seem to be party political questions, I submit that in the post-war period we shall require other "controls" if we seriously are to tackle the housing problem. I refer particularly to (*a*) building priorities and (*b*) prices control. There is a danger that pent-up spending power of a small section of the people will absorb building materials and labour, in short supply, for luxury and unessential building. A continuance of our present building permit system will be necessary to ensure that whatever is available will provide essential structures (domestic and public) in numbers and proportions adequate to the most pressing needs of the community. It is imperative that we avoid what occurred in England after the last war. Between 1914 and 1920 the cost of essential building supplies increased as follows: bricks by 84%, pit sand by 236%, lime by 336%, sinks by 431%, and baths by 236%, and there were corresponding increases in the prices of other essential supplies. It may be that I have said enough about matters which, in these days of a wretched system of political party "labels", discourage a dispassionate approach to the housing problem.

Orthodox Finance.

I have already referred to the effect on housing of high interest charges; but what of our out-of-date general approach to the financing of housing? In the days when France was falling, the remnants of the British Army were being rescued at Dunkirk and civilization was rocking on its foundations, the whole community suddenly realized the necessity for a new sense of values. Wealth and material possessions mattered not, and we were overwhelmed with a feeling of common brotherhood binding together the great masses of our people, rich and poor, who were prepared to lay aside all personal considerations and fight for the retention of the grandest things of the mind and of the soul. As the crisis passed, we rapidly reverted to our old habits of mind, and today, on the eve of victory, the grand spiritual surge of 1940-1941 has subsided. Nothing was to be too good for those who were then risking their lives to preserve our freedom and save our personal possessions. For six years we have passed through an era of destruction during which little or no thought is given to the daily destruction of wealth and things produced. Today we are pouring millions of pounds' worth of explosives into enemy territory. If a tank or torpedo costing £1,000 to £1,200 is lost, no one worries.

I wonder whether in the days of peace we shall spend half so freely in promoting human welfare. Earl Lloyd George reminded us that at 10 o'clock on November 11, 1918, there was no limit to what the nation was prepared to spend on armaments; but at 11 o'clock on the same day we suddenly underwent some magic change—we could not afford to spend very much on the promotion of human welfare. You all remember the "homes for heroes" hypocrisy. I mention these matters only to inquire whether we propose to insist that the soldier, whom we entrusted with our all, shall provide a deposit for the purchase of a home. On every hand we hear the dear old "Mother Grundies" of the financial world warning us that it is unsafe to sell a home to anyone without a substantial deposit.

My point is that this is mostly just so much humbug. Thousands of our families unable to provide a deposit in the early years of married life have struggled on for years, punctually paying a rental which would have purchased the home they live in.

I urge that homes be made available for purchase without deposit and at low interest rates. I further urge that home purchase be linked with social security, insurance against death, sickness and unemployment. We must hearken unto Sir William Beveridge, although I ask you in all sincerity whether, in view of the poverty of our people, a contributory system of social security is feasible. If my earnings are not sufficient to enable me to provide shelter, food and clothing for myself and family, where am I to obtain the money for my contribution to the social service scheme? If my basic wage has been fixed by reference to my minimum needs, then plainly I cannot provide my contribution from what I have to pay in rent. I shall have to take it from money which I need for food and clothing. In order to have social security I must go hungry or naked! So much for the contributory schemes.

If time permitted I should like to tell you something of the necessity for regional and local planning, without which every national housing programme must end in disaster. I shall confine my remarks to the town and country planning act recently passed in Victoria.

Town Planning.

These observations on the housing problem are not complete without reference to town planning. I realize how necessary it is to have wide and beautiful streets and ample parks, gardens and the like. However, do not let us be misled by those who claim that town planning (or as it is sometimes erroneously called, town and country planning) legislation, as recently passed in this State, will serve any real purpose. Similar legislation in England has proved most disappointing. It was originally passed in 1909, and after a trial of thirty-five years has accomplished very little; and yet in this State we have blindly followed it. Apparently we are prepared to forget nothing, to learn nothing. It is planning from the wrong end.

Between 1918 and 1939 London doubled in size, and the increase in area was almost entirely unplanned. Over a period of thirty-five years only 5% of England is subject to statutory planning schemes. The main reasons for the failure are inherent in our own legislation. I refer particularly to (*a*) the reluctance of local authorities to adopt planning schemes, as these involve an increase in rates, and (*b*) the reluctance of a minister (from political considerations) to compel any local authority to adopt a planning scheme.

We have wrong ideas about the meaning and purpose of town planning. The town planner, many centuries ago, was usually an architect who was concerned with the physical planning of projects. In the course of time, however, it was realized that it was not sufficient just to plan beautiful boulevards, parks, gardens and the like. It was

realized that the very reason for the existence of a city, for its location, its growth or decadence, was wrapped up in wider considerations, namely, the resources of the region. The early town planner was concerned with the æsthetic planning of uncoordinated units. Today the functions of the planner cover a much wider field. He must think nationally and regionally. He must think not only as an architect thinks; he must also approach his problems with the knowledge and the assistance of the economist, the geographer, the sociologist and a host of other specially trained people.

To attempt to initiate town or local planning and legislation along lines which have proved a dismal failure in other countries before planning on a State-wide and regional basis is a sad commentary on the intelligence of our legislators. It is indeed a sad commentary on the State of public opinion which acquiesces in such a course. Without a regional background town planning must necessarily be a matter of guesswork. I cannot imagine any town planner even commencing to plan a community without first making a most comprehensive survey of the region. Obviously the framework of every town plan must be laid down with sound knowledge or estimation of the ultimate or optimum size of the town. In a country where our water supply is regularly limited, the town planner will need the assistance of the State Rivers and Water Supply Commission. The planner will need to know much of the future policy of that commission. He will ask himself the question whether the commission proposes to spread the water thinly over the whole State, thereby providing a scattered settlement, or whether it is proposed to concentrate that water more thickly in areas which will be more densely populated. It also will be obvious to the town planner that a water policy encouraging the growth of provincial centres will enable him to plan better and more comprehensive community facilities. Our future water policy will determine whether we are to plan Shepparton as a town ultimately to house a population of 20,000 or 200,000. The planner would, of course, develop different plans for towns of 20,000 and 200,000. And all this is just to show how essential it is to realize that town planning unrelated to the wider considerations of regional and State development can be only Utopian end empirical.

The town planning act recently passed by the Victorian Parliament suffers from that inherent defect. For that reason, apart from others equally plain, our town planning bill is ill-considered. It is a still-born creation of English legislation, which after thirty-five years has been an admitted failure in Britain.

The local nature and extent of our natural resources will determine to a large extent the location of our industries. The location of industry in turn determines where our people are to live. The simultaneous and harmonious development of resources, the location and establishment of industry and new communities, cannot be planned piecemeal.

Town planning legislation in this State contemplates the planning of numerous small uncoordinated areas. Our local government divisions rarely, if ever, come into existence as separate physiographic units. Almost without exception these areas have grown like Topsy—many are too small, many are too large, and others frequently lack within themselves a complete identity or community of interest. The town planner, strictly so-called, is compelled by the present legislation to tackle his job without the means of assessing spheres of influence. Strictly a town planner is not entitled to assume for local planning purposes that the population of Ballarat is, say, 45,000. If in this State we had appropriate regional planning legislation, the town planner would be given through the State and regional planning bodies information which would show that the sphere of influence of Ballarat affected the lives of 100,000 and not merely the 45,000 residents.

It is regretted that our own town planning legislation was rushed through Parliament without a proper consideration of developments overseas. When it was first announced that town planning legislation was to be introduced in Victoria, Cabinet was offered the services of a committee representing several technical institutes, architects, surveyors, engineers and others who had made a special study of developments overseas. That offer of assistance was refused, and it remains to be seen whether that legislation, now in force, will produce better results than it has done in England during thirty-five years. It is a misnomer to call the act a town and country planning act, and unless something is done and done quickly to plan for the country on a regional basis, there will be only ghost towns in the country to be planned under our so-called town and country planning legislation.

Town planning will not solve the great problem now facing the Victorian Housing Commission. To take the most optimistic view, it may ensure decent street layouts; it may ensure the adoption of zoning schemes; it will not solve the most perplexing of all our problems. In order to overtake the existing shortage of 80,000 houses in Victoria and current additional needs (increasing at the rate of 10,000 houses per year), it will be necessary to build 300 houses each week for the next ten years. In the past we built so few houses that their location did not present a major problem. Are we now to build houses just anywhere regardless of social consequences—wherever there happens to be sufficient vacant land? Are we to allow Melbourne to increase in size, muddle and squalor? We shall do so if we fail to plan regionally the situation and size of existing towns and of new communities, all of which are dependent on State-wide planning. Town planning must have some real relationship to regional and State development.

Health.

Already I have referred to health matters in the sequence of poverty and housing. It may be that I have convinced you that the only means of achieving decent housing conditions for the people of Australia is to treat housing as a social service. Once that proposition is accepted, the poverty of the people dictates that as the State assumes a large measure of responsibility for education, police protection, and social, health and hospital services, so must housing be added to this list. The cost of housing, whether to the renting tenant or to the purchaser, must be such as to leave him with sufficient wherewith to purchase food and clothing. The State must make up any deficiency through rental rebates and advantageous financial terms of purchase, at the same time giving protection against periods of ill health and unemployment.

Temporary Housing.

There is a danger that in the hour of our extremity we shall be tempted to build so-called temporary houses. This is an error to be guarded against. Temporary houses erected in Canada during the period from 1914 to 1918 are still being occupied and will be occupied so long as those temporary houses are better than the worst houses.

The Effects of Bad Housing.

From time to time my colleagues and I have endeavoured to show from statistics the toll bad housing is taking of the community. Those statistics have been questioned by competent medical authorities; but I am sure all agree that the more closely together people live (and there may be overcrowding of housing units as well as overcrowding in the houses), the more surely does disease, which is acquired by contact infection, spread. This applies to common colds, influenza, diphtheria, scarlet fever, measles, infantile paralysis, pneumonia, tuberculosis and many other conditions.

In 1936-1937 in Melbourne we established the ratios shown in Table II. Those findings are borne out by recorded

TABLE II.

Condition.	Inner Suburbs with Lower Housing Standards.	Outer Suburbs with Higher Housing Standards.
Infant deaths	2	1
Infectious diseases	3	1
Infantile paralysis	4	1

experience in other places. In Toronto and in Glasgow the proportions of infant deaths between good and bad housing areas are the same.

I realize that bad housing alone cannot be given full credit for these alarming figures. The figures are, however, something more than a coincidence. In 1936, 18% of the sub-standard houses inspected by the Slum Abolition and Housing Investigation Board were vermin-infested, 39% were rat-infested, 28% had defective drainage, 69% were inadequately ventilated, 9% adjoined stables and factories, and most were damp. Whatever may be the virtue of the attack on our conclusions drawn from available statistics, the figures given are such as to leave little or no doubt.

Poverty drives our people into sub-standard houses; sub-standard houses in their turn take their toll of national health.

Conclusion.

I have said much about the toll which poverty and bad housing are taking of the physical health of the community. Let us pause for a moment and ask "what of the health of the body politic?" This is an aspect of the problem we are apt to overlook. Since the beginning of this year the Victorian Housing Commission has received an average of 1,500 applications per month from persons (many service personnel and dependants of service men), not asking, but demanding, somewhere to live. Most, if not all, are cases of dire need. So difficult has it become for the commission to decide who are the most deserving and needy, that a system of balloting for the few houses available has been adopted by the commission. This acute position will be aggravated when a million return to civil life from the services and essential industries. Neither the community at large nor our politicians have yet realized the dangerous and unthinkable implications of the housing situation. The situation is an ugly one, and I fear that it may result in civil discontent of a serious nature.

Ringing in the ears of our fighting men are the echoes of the promises we made them when they rushed away to defend this country. They either know or will remember that similar promises were made during the last war. They either know or will remember that those promises were broken. "Homes for heroes" was only a slogan which failed to materialize. Sir Stafford Cripps, two years ago, made the following statement:

> There must be none of those gross inequalities after this war that were the aftermath of the last war; none of the disgraceful contrast of great poverty and great wealth and no vast bands of heroic defenders of our country walking the streets in vain search of a livelihood.

In other words, we have promised the abolition of fear and of want; the abolition of poverty. We again have promised homes for heroes. Are we honouring those promises? It seems that we are not.

After the last war, in 1919, Mr. (later Earl) Lloyd George, referring to similar promises made to our fighting men and to the prospect that those promises might not be honoured, said: "We shall be guilty of the basest perfidy that ever blackened a people's fame." Yes, hard words! Are we to merit a similar reproach?

Coming nearer home, I remind you that two years ago my own Commission uttered a similar warning in no uncertain terms. Those of us who live in comfortable homes may not appreciate the seriousness of those warnings. The danger of civil commotion in Australia after this war as a result of the housing situation is a very real danger. Peace will have its problems no less confused than war, and it seems that the housing problem will be not the least of them.

When, therefore, we think of the effect of poverty and bad housing on the physical health of the people, let us not forget the effect of poverty and (for many) no housing on the health of the body politic. In present circumstances we are inviting disaster.

A SLIDE MODIFICATION OF THE EAGLE FLOCCULATION TEST.

By N. E. GOLDSWORTHY, F. SIMPSON AND HUGH K. WARD,
From the Department of Bacteriology in the University of Sydney and the Institute of Medical Research at the Royal North Shore Hospital of Sydney.

SINCE Sachs and Georgi showed in 1918 that the complement-fixation technique was not essential for the detection of the reacting substance in the serum of syphilitic individuals, innumerable tests have been introduced in which the reaction between this reagin and the "antigen" is observed directly. At the present time the best known of these are the tests of Meinicke, Kahn, Kline, Eagle, Hinton and Laughlin. In these circumstances we hesitated to suggest an addition to the number, but we believe that the test described below has certain advantages, and therefore in spite of our diffidence decided to present it. The technique was evolved during attempts to simplify the Eagle (1937) flocculation test, which has proved itself in various American trials. Eagle and Brand (1938) have described a micro-modification of the Eagle flocculation technique in which the mixture of reagents is shaken, incubated and then centrifuged as in the original technique and the results are read microscopically as well as macroscopically. We have found, however, that the whole test can be carried out on a slide and that neither shaking, incubation, centrifugation nor the use of a microscope is necessary.

A serum test for the diagnosis of syphilis for routine use in all circumstances should if possible have the following characteristics: (*a*) sensitivity in detecting the reacting substance in the serum, (*b*) specificity, (*c*) simplicity in performance and reading, (*d*) rapidity. It might be argued that in a chronic disease a rapid diagnosis is not essential, but with the increasing use of whole blood in modern therapy and the danger of the transmission of syphilis in this way, a quick and reliable method of diagnosing syphilis during the testing of donors is certainly desirable.

While we believe that the test which will now be described appears to meet the above requirements, we realize that any serum test for the diagnosis of syphilis must pass through exacting trials before it can be accepted. We have ourselves tested a number of sera by three different methods: the Eagle modification of the Wassermann test, the Eagle flocculation test (tube) and our own slide modification of the Eagle flocculation technique, and the results of this trial are presented in this paper.

Materials.

1. Sera were obtained from patients in syphilis clinics, antenatal clinics and the general wards and out-patient departments of civilian hospitals.

2. Eagle flocculation antigen was prepared as described by Eagle (1937) (see appendix). The corn-germ sterol was at first obtained from America, but as supplies gave out was prepared locally according to the method described by Holden (1942); both samples have proved equally satisfactory. The antigen was kept at room temperature in the dark in a glass bottle with a well-fitting glass stopper.

3. Salt solution was made by dissolving four grammes of sodium chloride in 100 millilitres of distilled water and adding enough merthiolate (as a preservative) to give a final concentration of 1 in 500,000. The salt solution was kept in a stoppered glass bottle at room temperature.

Technique.

The tests were carried out according to the following technique.

The Suspension of Antigen in 4% Salt Solution.

One mil of the antigen is measured into the bottom of a 100 millilitre measuring cylinder. Salt solution is taken into a ten millilitre pipette (graduated to the tip). While

the point of the pipette is held over the centre of the mouth of the cylinder, the ten millilitres of salt solution are allowed to drop onto the antigen by removing the finger from the end of the pipette. Five mils of the suspension (the whole eleven millilitres if required) are then centrifuged for ten minutes at 3,000 revolutions per minute. The opalescent supernatant fluid is next removed with a capillary pipette and the white deposit resuspended in a quantity of 4% salt solution equal to half the original volume. After thorough mixing of the deposit and the salt solution by drawing the fluid up and down vigorously in a capillary pipette several times, the antigen is ready for use.

In a preliminary series of tests, the antigen was prepared simply by suspension of one millilitre of the alcoholic fluid in ten millilitres of 4% salt solution, the centrifugation and resuspension being omitted. This method was subsequently given up when it was found that some observers were confused by the visible particles in the uncentrifuged suspension. When the suspension is centrifuged and resuspended as described above, no visible particles can be seen with the unaided eye when the suspension is mixed on a slide with normal serum. If no centrifuge is available for the preparation of the suspension as described above, it is possible to carry out the test with the uncentrifuged antigen as was done in our preliminary series, but care must be taken to compare all reactions with that of a known non-reacting serum.

The suspension tends to flocculate fairly rapidly when unmixed with serum, and therefore it should always be mixed by drawing it in and out of the pasteur pipette just before addition to the serum. With this precaution it can be used at any time on the day of its preparation. After standing for more than a day it tends to lose its sensitivity.

One mil of suspension is enough for approximately twenty tests.

If only a few tests have to be performed, 0·2 millilitre of the alcoholic antigen can be placed at the bottom of a centrifuge tube and 2·0 millilitres of 4% salt solution allowed to drop onto the antigen from a ten millilitre pipette. After centrifugation and removal of the supernatant fluid, one millilitre of 4% salt solution is added and mixed thoroughly with the deposit.

Very occasionally the particles, on centrifugation, rise to the top instead of sinking to the bottom. If this should happen another suspension must be prepared.

"Inactivation" of the Serum.

After removal of the serum from its clot, it is inactivated by the usual method of heating at 56° C. for twenty to thirty minutes or by the rapid-heating method described by Strauss (1941). Strauss recommended heating at 60° to 63° C. for three minutes, and we have found that 61° C. for three and a half minutes is satisfactory.

The Setting Up of the Test.

Two drops of the "inactivated" serum are placed on a clean glass slide and one drop of the suspension is added to the serum, clean and dry pasteur pipettes being used. The serum and suspension are thoroughly mixed with a piece of a wooden applicator (such as is used for making a throat swab). The area covered by the mixture on the slide should be slightly less than one inch in diameter. A known non-reacting serum and a known reacting serum (preferably weakly positive) must be put up at the same time to serve as controls. The mixture is rock-rotated on the slide for two minutes and then a first reading is made. It is left for four to five minutes, rock-rotated again for two minutes, and the result is read for the second time. Very occasionally flocculation is delayed and appears only at the end of fifteen minutes. It is not safe to read the results of tests after more than fifteen minutes have elapsed. If a number of tests are put up at the same time, a glass plate is more convenient than the ordinary three inch by one inch glass slide, and attention should be paid to the time interval between the various operations in order to ensure identical treatment for all specimens of serum.

Reading of the Test.

The result of the test is read with the unaided eye against a dark background. When flocculation occurs it may be almost immediate with the formation of large floccules or it may be delayed with the formation of small floccules. The floccules tend to collect at the periphery of the drop, as it is rock-rotated, to form an obvious rim, whereas in the absence of flocculation no such rim is observed. If no flocculation occurs at the end of fifteen minutes, the result is recorded as negative. If any doubt exists whether flocculation has occurred the result should be marked doubtful. If flocculation is observed for the first time at the end of fifteen minutes, such delayed flocculation should also be interpreted as a doubtful reaction.

It is open to question whether any useful purpose is served by indicating the degrees of flocculation by "++++", "+++", "++" and "+" signs, since the only accurate method of measuring the strength of the reacting substance in a syphilitic serum is by the titration of the serum. The *plus* nomenclature as applied to the ordinary serum test with the use of the one quantity of serum is apt to mislead clinicians who are unfamiliar with serological technique. In our opinion, only three interpretations should be made, either "positive", or "negative", or "doubtful", as recommended by Eagle.

Results.

Three hundred and twelve sera were tested, but with a few of these there was not sufficient for the carrying out of all three tests—the Eagle Wassermann test, the Eagle flocculation test and the slide modification of the latter as described above. The slide flocculation test was set up and the result was read without any knowledge of the origin of the serum or of the results obtained by the other two tests, and the results were set down in writing before any comparison was made.

Of the 312 sera examined, 231 were "negative" by all methods, 49 were "positive" by all methods and two were "doubtful" by all methods; in 27 specimens there was some disagreement between the results obtained by the three methods.

In Table I is set out a comparison between the results obtained by the Wassermann test on the one hand and the slide modification of the Eagle flocculation test on the other. This shows that the slide test is more sensitive

TABLE I.
Wassermann Test and Slide Test Compared.

Result of Wassermann Test.	Result of Slide Test.	Number of Specimens.
+	+	50
+	D	0
+	−	0
D	+	6
D	D	3
D	−	3
−	+	7
−	D	3
−	−	240

than the Wassermann test, since with seven sera the slide test gave a positive result and the Wassermann test a negative result, and with six sera the slide test gave a positive result and the Wassermann test a doubtful result.

In Table II is set out a comparison of the results obtained by the ordinary Eagle flocculation test on the one hand and the slide modification thereof on the other. This shows that the slide test is somewhat more sensitive than the ordinary test, since although with one serum the

TABLE II.
Tube Flocculation and Slide Tests Compared.

Result of Tube Flocculation Test.	Result of Slide Test.	Number of Specimens.
+	+	54
+	D	0
+	−	1
D	+	7
D	D	3
D	−	6
−	+	0
−	D	2
−	−	234

tube test gave a positive result and the slide test a negative result, with seven sera the slide test gave a positive result and the ordinary test a doubtful resul .

With fifteen sera the result of the slide test was positive; and the result was negative or doubtful in one or other, or both, of the remaining two tests. Ten of these fifteen sera were from syphilitic patients undergoing treatment. Three sera were from patients who had no clinical evidence of syphilis, but whose serum had on previous occasions given one or more positive results by accepted techniques in the hands of other workers. The remaining two sera were from patients with no clinical evidence of syphilis, and unfortunately no confirmatory tests could be made. These two sera must therefore be considered to have given a non-specific reaction by the slide method.

Results of Preliminary Investigation Mentioned Above.—It was hoped that a much larger number of sera could be tested than the 312 specimens discussed in the preceding paragraphs, but the investigation had to be terminated by circumstances beyond our control. However, in a preliminary investigation of the slide method with the use of an antigen which had not been resuspended (a method which we do not now recommend for the reasons discussed previously), 930 sera were tested by the three methods with the same general results, that is, the slide method was more sensitive than both the Wassermann test and the ordinary Eagle flocculation test.

One hundred sera were examined to ascertain whether this preliminary method was more or less sensitive than the later method in which the resuspended antigen was used. No significant difference in sensitivity was observed.

Similarly in another investigation into the effects of heating the serum at 61° C. for three and a half minutes instead of at 56° C. for twenty minutes, no significant differences were observed in over 200 tests.

Discussion.

Advantages and Disadvantages of the Slide Technique.

The main advantages claimed for the slide modification of the Eagle flocculation test are the ease and rapidity with which it can be carried out and the fact that the only piece of special apparatus required is the centrifuge (and even that can be dispensed with if necessary). Thus for a batch of fifty specimens of serum the whole test can be completed in ninety minutes, whereas with the original tube flocculation test the time required is approximately six hours.

The main disadvantage is that if a titration of the reacting substance in syphilitic serum is required, the slide test is unlikely to be as accurate as the tube method, in which quantities can be measured with graduated pipettes.

Reliability of the Results Given by the Slide Modification.

In our experience the slide modification is slightly more sensitive than the original Eagle flocculation test and definitely more sensitive than the Eagle Wassermann test. On the other hand, positive reactions were obtained with the sera of two patients when the results of the other tests were negative and there was no clinical evidence of syphilis. This would suggest that the slide modification is too sensitive and runs a danger of yielding non-specific reactions. However, we feel that there is too little evidence on this point, especially as we have the opposite evidence with some of the miscellaneous sera submitted to us for an opinion. With a few of these specimens the result of one or other well-known serum test has been positive, there has been no clinical evidence of syphilis, and the result of the slide modification of Eagle's test has been negative. In this connexion it is well known that serum from patients with malaria often gives a non-specific reaction. In a separate investigation we have tested a number of sera from malaria patients which had given a Wassermann reaction. Many of these sera gave non-specific reactions with the slide modification of the Eagle flocculation test, but a few of them failed to give a reaction.

On the whole we feel that it would be fair to say that the sensitivity of the test is satisfactory, but that its specificity has not yet been fully established. In any case, it is now generally coming to be recognized by clinicians as well as others, that a serum reaction to any one test does not constitute a diagnosis of syphilis and that even if two serum tests agree in this respect, the reaction of the serum is only one piece of evidence in the diagnosis of this disease.

The Mechanism of Slide Tests Involving the Aggregation of Particles.

The striking difference between the slide modification and the original Eagle flocculation test is the great acceleration in reaction when the test is carried out on the slide—a matter of minutes on the slide and hours in the tube. Many bacteriologists have noted the speed with which bacteria undergo specific agglutination on the slide. Probably this is a physical phenomenon, but no explanation can be given or found in the literature. The thinness of the layer of reacting mixture in relation to the area of glass in contact is a factor, as has been shown by Todd (1930), who found that if a unit volume of a mixture of red cells and an agglutinating serum were spread over an area of 234 square millimetres, agglutination was complete in twenty-six minutes, whereas if it was spread over an area of 920 square millimetres, agglutination was complete in six minutes. In a few observations made with mixtures of syphilitic serum and antigen we have seen some evidence of a similar relation between the area of the film and the speed of reaction.

Summary.

1. A slide modification of the Eagle flocculation test is described.

2. The advantages claimed over the original test are the ease and rapidity with which it can be carried out.

3. A small series of tests has been carried out and a comparison of the slide modification of the Eagle flocculation test has been made with the original test and with the Eagle Wassermann test. The slide modification was slightly more sensitive than the original test and definitely more sensitive than the Wassermann test. It is possible that the slide test is too sensitive and may give non-specific reactions, but more evidence is required on this point.

4. The reaction between a positively reacting serum and the antigen is many times more rapid on the slide than in the test tube. This acceleration, when the reacting mixture is spread out in a thin layer, is discussed.

Appendix.

Preparation of the Eagle Flocculation Antigen.

Portion of the pooled muscle of eighteen calves' hearts was minced and dried on glass plates by the aid of a fan in a warm room. When thoroughly dry, the tissue was ground in a coffee grinder.

Fifty grammes of the dried and powdered tissue were extracted with 250 millilitres of pure anæsthesia ether (five millilitres per gramme of powder) for fifteen minutes at 30° to 37° C. with frequent shaking. The liquid was filtered off with suction and the extraction repeated with fresh quantities of ether, the total number of such extractions being four. After the fourth extraction the powder was washed on the filter with 100 millilitres of fresh ether, dried at 37° C. and then extracted for five days with 250 millilitres of absolute ethyl alcohol (five millilitres per gramme of powder) with occasional shaking each day. The alcoholic extract was filtered off and the moist powder washed on the filter with small portions of fresh alcohol until the combined filtrate and washings equalled 250 millilitres (five millilitres per gramme of powder). The clear yellowish fluid is the basic alcoholic extract. To it were added 0·6% of corn-germ sterol and 0·6% of cholesterol, these being dissolved by gently boiling. This reinforced extract keeps well ("for at least 24 months at room temperature", according to Eagle).

Our method of preparation differs slightly from that of Eagle, in so far as the minced muscle was dried without the aid of acetone.

We have also used "Bacto" beef heart (dehydrated) and found it just as satisfactory as the powder prepared in the laboratory.

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STAPHYLOCOCCAL FASCIITIS: ITS RELATION TO PENICILLIN THERAPY.

By KENNETH W. STARR,
Lieutenant-Colonel, Australian Army Medical Corps.

THE wonderful benefits conferred upon surgery by penicillin may be vitiated if the limits of chemotherapy are not recognized. While penicillin is active in the presence of pus, its failure (from the point of view of surgical cure) in the presence of dead tissue is not so thoroughly appreciated. It is the duty of the surgeon, in employing penicillin, to ensure that, wherever surgically possible, the cure of the following conditions has been provided for: (i) dead bone or foreign body, (ii) dead tendon or aponeurosis, (iii) loculation or gravitation abscesses. If these possibilities have been excluded, penicillin will produce its anticipated result if the organism is sensitive. Even if the organism is a member of the sensitive group, its resistance may have become enhanced and a much greater concentration may be required to control the infection. This increase in sensitivity is reflected in the laboratory sensitivity test; but the dose to be employed in local penicillin therapy may not be so indicated.

In a group of battle casualties, persistent soft-tissue sinuses presented surgical problems of considerable difficulty. There was no evidence of dead bone on radiographic examination or on exploration with the probe. The sinus, upon lipiodol investigation (contrast radiography), was tortuous and wandered for considerable distances in the subcutaneous zones with many secondary tracks. There were often multiple openings on the skin, from which small amounts of seropus were discharged daily. This pus yielded coagulase-producing hæmolytic *Staphylococcus aureus* on all occasions. For a time penicillin therapy employed locally, with or without systemic dosage, diminished the discharge, and appeared to control the infection. Recrudescence was constant. All patients had been subjected to repeated surgical intervention; but the condition had not been cured.

A new plan was therefore determined. At operation in Case I it was appreciated that the condition was not generally recognized by surgeons and represented a subacute staphylococcal infection of fascio-aponeurotic planes with progressive necrosis of the tissue. Thus the condition corresponds to subacute staphylococcal infection of bone; but it was in these cases always of local and never of hæmatogenous origin. After any surgical intervention the wound again broke down, because progressive death of the fascia had occurred, and chemotherapy subsequently employed was therefore vitiated.

At the stage at which we received the patients the sensitivity of the organisms was greatly diminished. If no dead bone or tendon and no abscess was present in a patient with persistent soft-tissue sinuses, and if hæmolytic *Staphylococcus aureus* was produced on culture, local penicillin therapy was begun, a strength of 2,500 Oxford units per cubic centimetre being employed.

Accordingly, therefore, the following routine plan was adopted:

1. The blood values of the patients were restored. No surgical intervention was undertaken unless the hæmoglobin value, red blood cell count and hæmatocrit estimations were normal. This demanded blood transfusions in two cases.

2. Great care was taken by general and local examination of all the features to ensure that the cause of the condition was local. As all the present cases resulted from gunshot wounds, this presented no great difficulty. However, it was more difficult to assign the condition to the category of staphylococcal fasciitis. The history of the repeated failure of surgery and chemotherapy to cure the condition, the presence of the sinuses where fascio-aponeurotic envelopes are to be expected (axilla, thigh, forearm, calf, palm, sole of foot), the absence of a bony lesion on X-ray examination, the revelation of a deep racemose sinus on lipiodol investigation, and the recovery of hæmolytic *Staphylococcus aureus* from the pus, made possible the predication of the dead fascia as the ætiological factor.

3. Pre-operative instillation of penicillin solution (2,500 Oxford units per cubic centimetre) was employed for three to seven days until the infection was controlled and the culture material yielded no staphylococci.

4. In the early cases depot doses of sulphamerazine were employed for twenty-four hours before and for two days after operation. Lately depot and maintenance intramuscular dosage with penicillin has also been employed. The uniformity of success with either drug seems to indicate that the local and not the systemic chemotherapy is of the greater importance.

5. At operation a wide exposure is necessary, and all sinuses should be made to communicate with the main approach. When the skin and fat are undermined, the fascia is exposed. The fat is often hard and œdematous, and primary healing in these cases is difficult to secure. The dead white or mottled appearance of the fascia is widespread. It is thickened and hard to the touch, being in fact a "fascial sequestrum". Its eradication is essential to a good result, and as the condition appears to involve anatomical septa and envelopes, this has been possible in these cases. Moreover, the location of indispensable anatomical structures can be predicted and their preservation ensured. The resulting cavity is often very large, but its wall is not infrequently composed of muscle bellies, and heals rapidly.

6. Tubes are inserted into the cavity for post-operative local penicillin therapy. This is required for about seven days in our experience, and it was found advisable to employ the pre-operative strength of 2,500 units per cubic centimetre twice a day.

7. No buried sutures were inserted unless for the ligation of large vessels. The wound was closed with interrupted stainless steel wire sutures, which were left *in situ* for two weeks. No hesitation was felt in performing skin plastic operations (especially in the axilla and popliteal fossa) to provide primary closure without tension at the suture line. In four cases healing by first intention was achieved. One lesion healed in three weeks, with a minor breakdown in a large wound. The first case was encountered before penicillin was available, and no cure was effected; full recovery of function was not achieved for one or two months in the axillary and knee lesions.

Reports of Cases.

CASE I.—A soldier was first seen fourteen months after the removal of a piece of shrapnel from the right palm. Two previous unsuccessful surgical operations had been performed for removal of a persistent sinus. Through wide incisions along the palmar creases and without chemotherapy, radical removal of the whole palmar fascia was undertaken from the fingers to the transverse carpal ligament. The condition recurred at the wrist, and the soldier was eventually "boarded out" of the army.

The dead white swollen appearance of the fascia and the recovery of *Staphylococcus aureus* from all cultures first drew attention to the nature of the condition and the difficulties attending its management.

CASE II.—A fallen soldier was sprayed with a Japanese tommy-gun at close quarters. "The excitement of the assailing Jap was only equalled by the apprehension of the victim", and the bullets perforated the left thigh. Persistent sinuses resulted, and twelve months later he was first seen by me after three unsuccessful operations. After the routine preparation (blood transfusion and local penicillin therapy), radical eradication of the whole aponeurotic envelope of

the medial half of the thigh and the medial intermuscular septum (the walls of Hunter's canal included) was performed. The subcutaneous wound (measuring seventeen inches by nine inches) healed by first intention, except over a small area of three-quarters of an inch at the lower end.

CASE III.—Repeated operations had been undertaken over a period of sixteen months to cure the sinus on the lateral upper part of the thigh resulting from a bullet wound. This funnel-shaped sinus was five inches long, and the deep tracks wandered up and down the thigh for ten inches. Routine preparation (including blood transfusion) was undertaken, and at operation the whole lateral intermuscular septum of the thigh was removed, the lateral femoral leash being preserved. Healing occurred by first intention.

CASE IV.—A persistent sinus exposing the necrotic axillary fascia resulted from a bullet wound eight months previously. After routine preparation the whole of the axillary fascia was excised. The amount of axillary skin remaining was inadequate to close the wound. Accordingly an Estlander-Gillies flap was rotated from the pectoral skin, and primary healing was secured. The full abduction of the shoulder was restored in two months.

CASE V.—An old axillary scar following a shrapnel wound was excised, but broke down, and the axillary fascia was exposed. The condition was managed as in Case IV, and primary healing occurred.

CASE VI.—Following a gunshot wound ten months previously, the antecubital fascia was a scarred mass, restricting elbow movement and leaving a persistent anterior sinus. Routine preparation and radical operative removal were undertaken. The resulting skin defect was covered by rotating an Estlander-Gillies flap upwards from the volar aspect of the forearm. Primary healing was secured. The full range of movement was restored in two months.

Summary.

1. Staphylococcal fasciitis as a cause of fascial necrosis is described. The presence of such dead fascia produces a persistent chronic sinus.

2. When present and unrecognized, the lesion has vitiated surgical and chemotherapeutic attempts to cure the sinus. This is especially true of penicillin therapy.

3. Six cases of the condition are described and the successful management of five of the cases is reported.

Acknowledgement.

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SOME OBSERVATIONS ON THE USE OF TRICHLORETHYLENE IN ANÆSTHESIA.[1]

By A. L. BRIDGES WEBB,
Major, Australian Army Medical Corps.

THIS paper presents nothing which has not appeared in the literature regarding the use of trichlorethylene as a general anæsthetic agent. It is merely a brief review of what is known regarding its use together with the personal experiences of the writer. Although figures are presented from the first 100 cases, they are given merely as an indication of what has happened in the hands of a user with no previous experience of the drug.

Trichlorethylene has been used extensively in industry as a grease solvent in the engineering trade and for the dry cleaning of clothes. Even before its use as an anæsthetic agent was considered, work had been done in regard to its toxicity owing to symptoms which appeared in workers in these industries. The chief of these were dermatitis, dizziness, vomiting, transient unconsciousness and cranial nerve palsies. These appeared particularly in workers who had an addiction for the drug and who were in the habit of inhaling the fumes from the vats. It was paralysis of the fifth nerve which first stimulated the therapeutic use of trichlorethylene. It was given by inhalation in doses of one cubic centimetre with considerable relief in trigeminal neuralgia because of a supposed specific effect on the nerve. Hewer, however, states that the relief is due to the general analgesic action and not to any specific action.[2]

Trichlorethylene is a heavy colourless liquid with an odour resembling chloroform and a boiling point of 87° C. It is non-explosive and non-inflammable mixed with air, oxygen and nitrous oxide in all concentrations likely to be reached during anæsthesia. It is non-irritating to the respiratory passages and does not cause any excessive secretion of mucus or saliva. It thus possesses characteristics which should make it a valuable anæsthetic agent. The particular product available in Australia is called "trilene". It is coloured blue and contains a small amount of thymol to retard decomposition.

Apparatus.

Owing to the high boiling point, all users state that trilene has to be given from some form of vaporizer. The usual method is to place it in the chloroform bottle of a gas machine. However, Marrett has designed a small draw-over inhaler with bottles for both ether and trilene. The first few patients in this series were given trilene from an improvised inhaler of this type, but after three or four failures to obtain satisfactory induction a change was made to a "DM" gas machine, the trilene being placed in the ether bottle. With this arrangement results were much better; but latterly, with increased knowledge and experience, the Marrett type of inhaler has proved satisfactory.

Premedication.

At first one-sixth of a grain of morphine and one one-hundred-and-fiftieth of a grain of atropine were used as premedication; but with the addition of one and a half grains of "Nembutal" the induction of anæsthesia has been better and the maintenance easier.

Induction and Maintenance of Anæsthesia.

Hewer, who was one of the earliest users of trilene, states that owing to the non-irritability of the drug induction is rapid and easy.[1] This has not been the case in my hands, especially in the earlier cases of the series. Using trilene alone, I have seldom had the patience to persevere to the stage of full anæsthesia. With the "DM" machine nitrous oxide was used for induction, but the change-over was by no means so rapid as reported. The present practice is to use ethyl chloride in the bag, and with this it is found that the patients are ready for the surgeon in not more than ten minutes. Especially is this so since "Nembutal" premedication has been used. Durrans,[2] who has recorded a series in which "Pentothal" was used for induction, suggests that strong concentrations of trilene cause a bronchial spasm. If one accepts his view that this is prevented by the barbiturate, this may be the explanation of the easier induction with "Nembutal" premedication. In a series of 100 patients, all of whom have been soldiers—by no means easy subjects for anæsthesia—the second stage has never been marked by undue excitement, and only two cases are recorded in which even moderate restraint was required. In fact, the opposite has been the case, and in a number of instances embarrassment has been caused by the reaction of a peaceful patient with quiet automatic respirations to the first stimulus applied by the surgeon.

The signs of anæsthesia are similar to those seen when chloroform is used; but one should always keep in mind the fact that with trilene it is rarely possible or desirable to pass beyond the first plane of the third stage. Even in cases in which inadvertently an overdose has been given, owing to inexperience on my part, relaxation has not occurred. All users advise the addition of ether to obtain relaxation when necessary and then a return to trilene for maintenance of anæsthesia. It has not been found possible to maintain relaxation with trilene alone, once it has been obtained with ether, and so long as the surgeon demands relaxation, some ether has to be given. The amount, however, is small and the post-operative period seems just as comfortable as after trilene alone.

The biggest problem with this agent is the tachypnœa. This was present in all the earlier cases, but with

[1] Read at a meeting of the Australian Society of Anæsthetists, Melbourne, on February 28, 1945.

experience it was found to be occurring less frequently. I had not realized just why this was so till I read an article by Enderby.[4] He states that this rapid respiration is due to overdosage, and advises that the trilene should be withdrawn as soon as tachypnœa is noticed and restored in lesser amount only as the anæsthesia lightens. In most cases it is possible to find a narrow plane situated below that at which rapid breathing occurs and just above that at which stridor and movement are manifested. This plane is quite satisfactory for the type of case in which trilene is now used. The patient is quiet, breathing is automatic, the pupils are small and the colour is satisfactory. The movement which occurs as the anæsthesia becomes lighter is usually only a vague movement of a limb and is seldom repeated. Strangely enough, it has been noticed that it is not the limb which is being operated on that is first moved. As the plane of anæsthesia can rapidly be deepened, the surgeon is seldom inconvenienced.

In contradistinction to Enderby's view, Galley[5] has stated that the tachypnœa is due to too high a partial pressure of trilene in the alveoli rather than to the depth of anæsthesia. In his words, "induction is tardy and one is apt to push, and herein lies the pitfall which precipitates the patient into tachypnœa". Looking back, I realized that this was the case in my early attempts at induction. Knowing that trilene is hard to vaporize, one tends to give too high a concentration rather than too low.

Tachypnœa is not an invariable sign with trilene anæsthesia, and it should be borne in mind that there are a few patients who can receive a dangerous overdosage without this sign becoming manifest.

Although other users have reported apnœa as a by no means unusual occurrence, this has not been the experience in this series. Only one patient has stopped breathing, and that only for a brief period. The pulse remained steady, and with "Carbogen" and a minimum of artificial respiration breathing was soon restored.

Owing to the close similarity to chloroform, the possibility of primary cardiac failure had to be considered, and it was this possibility which was responsible for the slow adoption of trilene as a general anæsthetic agent. Different observers have reported the occurrence of cardiac irregularities in a large proportion of cases, and some have abandoned its use on this ground.[3] In this series it has been detected only twice. In one case extrasystoles persisted throughout the operation, and in the other the irregularity ceased after about ten minutes. It is probable that the irregularities occurred much more frequently than was observed. Kurtz Bennett and Shapiro[6] reported that with the electrocardiograph they found some form of cardiac irregularity in 100% of cases in which chloroform was used, in 90% in which ether was used, and in 82% in which cyclopropane was used. If this occurs so frequently with these drugs, it is probable that the use of trilene also produces similar figures, although Hewer[3] mentions cardiac irregularity as occurring only three times in 33 cases in which electrocardiographic records were taken. The only other work in this connexion is that of Gregor.[7] After attacks of transient unconsciousness in a patient who was inhaling trichlorethylene for relief of neuralgia, Gregor made electrocardiographic tracings and found that during unconsciousness gross cardiac irregularity due to multiple ventricular extrasystoles was present. Much experimental work was done, and the article concluded as follows:

> Moreover use of trilene as a general anæsthetic offers the threat of sudden death during light and irregular anæsthesia by a mechanism like that of chloroform.

However, in view of the large number of administrations by different anæsthetists, and in view of Hewer's[3] estimate of only two cases of primary cardiac failure in at least 300,000 cases, it is thought that the experimental findings can safely be ignored.

Recovery and Post-Anæsthetic Complications.

Patients recover consciousness with less distress and much more quickly than after ether. This is one of the advantages of trilene in plastic surgery, in which pedicles are frequently attached in unusual and uncomfortable positions. Any restlessness before consciousness is regained imposes an additional strain on the attendants. The sisters are some of the keenest barrackers for trilene, as they appreciate the peaceful and rapid recovery.

In a certain number of cases drowsiness has persisted for as long as twenty-four hours. This does not seem to have been associated with the length of the administration or the amount of trilene used. It has occurred in 4% of this series, and there were no ill-effects, although one patient had diplopia for a few hours. Mental confusion was present twice, but this condition seemed to be associated with a pre-anæsthetic state.

Although this series consists of soldiers, who appear to vomit less than civilians after any anæsthetic, the rarity of vomiting in any amount to cause distress is most striking. When a patient, who had been anæsthetized with trilene for two hours, is found eating a hearty meal just one and a half hours after leaving the operating theatre, it makes an impression. This occurred in one of the earliest cases, and although this was an exception, it is quite common for the evening meal to be eaten with relish by the patients who have had trilene anæsthesia in the morning. All patients in this series have been carefully observed, and vomiting has been reported as being present even if it has occurred only once.

In a series of patients anæsthetized with ether from the Oxford vaporizer, in which a similar standard was applied, 74% vomited. In this trilene series vomiting has been recorded as occurring in 22%, and only 3% of subjects have vomited more than once.

Headache occurred in 6% of cases, but it was severe in only one. Headache seems to be associated with drowsiness, and these patients did not vomit.

In March, 1944, after trilene had been in fairly extensive use for about two years, Humphrey and McClelland[10] reported a series of cranial nerve palsies with two deaths following anæsthesia. These subjects all had some herpes, and death occurred after various anæsthetic agents had been used. After investigation it was concluded that death was caused by decomposition of trilene in the presence of soda lime at an unduly high temperature. Dichloracetylene is formed under these conditions, and this substance can remain in small traces in the machine, thus causing symptoms in patients who have not actually had trilene. Since then trilene has not been used in a closed circuit, and a warning to this effect is issued by the manufacturers. In the present series three patients received trilene in a closed circuit before the warning was issued, but there were no ill-effects. In two cases double vision has been noted on the day after operation; in one of these some right external rectus palsy occurred, which appeared to have cleared up by the next day, and the other patient complained of diplopia for one day only. The first of these patients had trilene for two and three-quarter hours, and a note was made that much trilene was required to keep him anæsthetized, and that anæsthesia was always light. He woke quickly, but his was one of the cases in which vomiting was a feature. The second patient was one of those who was drowsy for twenty-four hours. What was the cause of the diplopia in these two cases it is hard to say. In the cases reported from overseas the symptoms did not make themselves manifest till the second or third day, and were slow to clear up. These two patients complained within a few hours, and were well next day. Neither of them had trilene in a closed circuit, and it is probable that dichloracetylene was not the cause.

Trilene has been used in surgery of the nose and throat, in some orthopædic procedures, in plastic surgery and in most forms of minor general surgery. Owing to the lack of relaxation, no attempt has been made to use it in abdominal surgery. I have gone through stages of enthusiasm and also stages of disgust. If it had not been for the enthusiasm of the patients, trilene might have been abandoned in the early stages before some of the difficulties were properly understood; but when patients who had undergone anæsthesia on five or six occasions all expressed a preference for trilene and endeavoured to be put on the list on "trilene days", I was encouraged to persevere. I have had more difficulty in learning to administer trilene

than any other anæsthetic, and I am still not sure how far the advantages outweigh the disadvantages. I believe that, as its characteristics become better known, it will be found to have a small but valuable place among anæsthetic agents.

Acknowledgement.

The Director-General of Medical Services has given permission for the publication of this paper.

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A DEVICE FOR INTRAVENOUS ANÆSTHESIA.

By RONALD V. PRATT,
Balranald, New South Wales.

MANY methods, varying greatly in degree of complexity, have been devised for the continuous or intermittent administration of intravenous anæsthetic solutions, not a few having appeared from time to time in the current literature. One of the simplest of these methods, I think, is that described by Major R. Shaw in the *British Medical Journal* of December 4, 1943. With some slight modifications I put this device into practice, and a trial over a six-month period so impressed me with its general efficiency and range of usefulness that I believe further description may not be out of place in drawing attention to a most profitable addition to the anæsthetic resources of general practice. In rural practice particularly its simplicity and easy management make it doubly valuable.

Figure I shows the apparatus to consist essentially of a syringe, adapter, rubber tubing, spring clip, glass viewer and needle. I use a 20 cubic centimetre syringe with metal

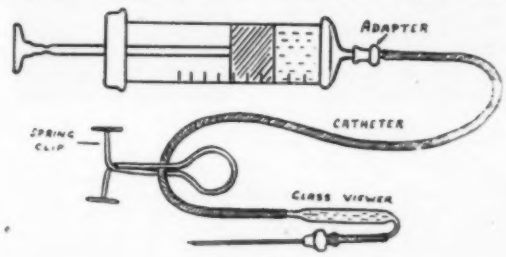

FIGURE I.

plunger, being doubtful whether a glass plunger will always remain sterile during repeated withdrawals. The "Record to Record" adapter is invaluable for the same reason, as it facilitates the removal of the syringe without fear of contamination to its nozzle or the tubing. The rubber tubing consists, as in Major Shaw's description, of a number 3 soft rubber catheter with the ends cut off, the bell end being used to fit over the hub of the needle when it is attached to the viewer. The glass viewer shown is a "Wright capsule" taken from the clinical diagnostic outfit number 6, as supplied by the Commonwealth Serum Laboratories; but any fine glass tubing will serve the purpose. The apparatus thus is assembled in the following order: needle, bell end of catheter, glass viewer, catheter with spring clip attached, "Record" adapter, and syringe.

The arm splint shown is made from a length of ten-centimetre Cramer wire. A discarded bathroom soap rack provided suitable material from which was fashioned a syringe rest; this is attached to the splint and into it the syringe can be readily and tightly clipped without danger of dislodgement.

The method of using this device is simple in the extreme (Figure II). The patient's arm is bandaged to the splint and rested on the anæsthetic table. In practice I have

FIGURE II.

never found it necessary to anchor the wrist to the table, but this may be done with the turn of a bandage. The syringe is filled in the usual way with the chosen solution and connected with the apparatus by means of the adapter. The lumen of the needle having been flooded to expel air, the needle is inserted into a vein. Correct puncture is confirmed by the aspiration of a little blood into the viewing chamber and induction is carried out as usual. The most notable feature, however, is in the correct and invariable use of the spring clip. When induction is complete, but before the pressure on the contents of the syringe is released, the clip (which at this stage is held open in the left hand) is clamped on the tubing. This ensures that the needle will not become blocked by a back-flow of blood and subsequent clotting. The needle is now secured to the arm by a strip of adhesive plaster and the syringe is "parked" in the clip-rack on the splint. Whenever subsequent injection is necessary the clip is simply released by thumb and index finger of the left hand and the requisite amount of solution is expelled from the syringe with the right hand after a precautionary draw-back to confirm that connexion with the vein still exists. Then, as before, the clip is allowed to compress the tubing before pressure is released on the syringe contents. When empty, the syringe is easily removed for refilling, so long as the clip is in place on the tubing.

During the six months in which I used this device intravenous anæsthesia was effected and maintained at all times with complete satisfaction. Blocking of the needle did not at any time occur, although in a prolonged operation as long as half an hour might sometimes elapse between successive injections. The apparatus was used with "Pentothal Sodium" as the sole anæsthetic agent for such operations as curettage, appendicectomy, bowel resection and anastomosis, repair of compound fractures of the mandible *et cetera*. The longest time for which it has been

used was five hours. This exceptionally long period was required during a difficult intestinal resection and anastomosis undertaken unavoidably in an emergency when facilities and assistance were not available. The patient in this case, who weighed slightly over seven stone, received a total dose of two grammes of "Pentothal Sodium" in 5% solution, maintained ideal muscular relaxation and a pulse rate of 80 to 88 per minute throughout, and caused no undue anxiety. She made a rapid and uneventful recovery, both immediately from the anæsthetic and subsequently from the operative procedures.

Figure III shows an apparatus for maintaining intravenous anæsthesia in the presence of a continuous drip administration of saline solution, which I constructed along the lines of a description given by Major W. M. Dennison in the *British Medical Journal* of September 30, 1944. I have not yet had sufficient experience of its use to make adequate comment on its value, but I have the impression that for simplicity, efficiency and ease of operation it has much to commend it over a number of other more complex devices described during the past year.

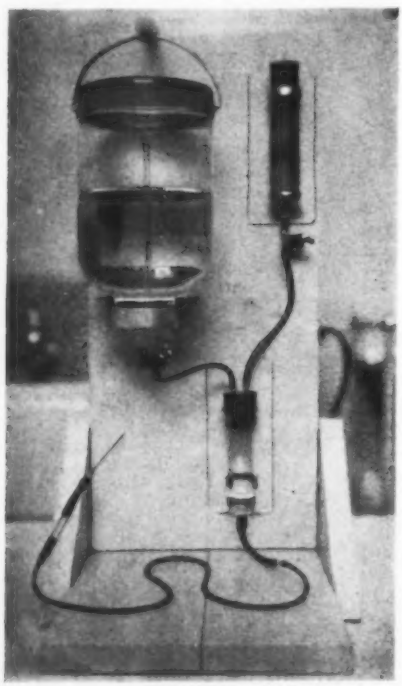

FIGURE III.

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MUSCLE HERNIÆ.

By MICHAEL KELLY,
Captain, Australian Army Medical Corps,
Western Australia.

SMALL defects in the fascial sheath of a muscle are not usually symptomless. Aching pain commonly occurs on continued use of the muscle, with a proneness to cramps. Sometimes, however, these defects occur without symptoms, as in seven of the twenty-one cases reported by McMaster (1943), and in Case IV of this series. In the great majority of reported cases the muscles of the anterior tibial group have been involved, the *tibialis anterior* being affected most frequently.

Though the hernia often is directly caused by injury, more frequently it is related to less acute but more prolonged trauma, in the shape of excessive pedestrian effort. Kitchin and Richmond (1943), who report three cases occurring in infantrymen, quote Hesse and Pichon, who found the condition to be much more common in residents of mountainous districts than in residents of the plains. In only two of McMaster's twenty-one cases was the defect in the deep fascia the direct result of injury. In five of the following six cases the hernia was so caused; in four the anterior tibial group was involved, the anterior aspect of the forearm being the site of the defect in the remaining two.

Reports of Cases.

CASE I.—Signalman B.H., aged thirty-eight years, ten years previously had sustained a knock on his left shin at the junction of its upper and middle thirds. The skin over the tibia became ulcerated and took nine months to heal. Since then a slight bulge has been visible on the front of the leg, and an ache is felt after weight-bearing. This has been worse since the patient's enlistment.

A B

FIGURE I.

Muscle hernia of *tibialis anterior*. Case I. A. Shows protrusion on normal weight-bearing. B. Dimpling on active contraction of the *tibialis anterior*. In both, a patch of unhealthy skin is seen medial to the hernia.

Examination revealed thinning and slight discoloration of the skin. Immediately lateral to this, the deep fascia was detached from the crest of the tibia, a gap measuring two inches by three-quarters of an inch being left, through which soft tissues bulged upon weight-bearing. Upon active contraction of the *tibialis anterior*, as by raising the fore part of the foot off the ground while bearing weight on the heel, the bulge was replaced by a dimple. The edge of the defect at its upper end was acutely tender to deep pressure (see Figure I, (*a*) and (*b*)).

CASE II.—A soldier had complained of aching pain in the lower part of his right leg since it had been crushed between two six-inch shells six months previously. Two small horizontal subcutaneous bulges, two inches apart and each two inches long, were seen in the lower third of the anterior tibial compartment. When the leg was placed horizontally the protrusions disappeared, to reappear when weight-bearing was resumed.

As in the other cases, the protrusion in this case closely resembled a medium-sized varix.

CASE III.—Corporal W.G., who had been a champion runner in his youth, complained of slight fatigue in his right leg below the knee. Examination revealed a vertical defect in the fascia half-way between knee and ankle, one and a half inches lateral to the crest of the tibia. It measured three inches by three-quarters of an inch and presented features similar to those observed in Case I.

CASE IV.—Private F.H., aged twenty years, had sustained a blow on his right leg eighteen months before. He suffered no pain or disability, but on standing he noticed a swelling on the front of the leg which disappeared when he sat or lay down. Examination revealed that the deep fascia was detached from the crest of the tibia for one inch at its middle.

CASE V.—Driver W.S., aged twenty-four years, four years previously had cut the front of his right forearm with glass. Though the resulting wound was not large, he was away from work for two weeks, and he was "useless" afterwards because the hand and forearm felt weak. No cutaneous numbness or muscular paralysis was ever observed; but the muscles felt "tight", and he used to carry the elbow slightly flexed. He felt no pain at any time. Examination revealed a transverse scar, one inch long, just below the middle of the forearm and towards its ulnar aspect. There was slight limitation of passive extension of the wrist and of the elbow. On firm contraction of the flexor muscles a soft bulge appeared beneath the scar. Palpation revealed a transverse defect in the deep fascia whose edges were well-defined. Around the scar for three inches in all directions the deep tissues were tender to pressure. The grip was perceptibly weak, but there was no evidence of nerve injury.

CASE VI.—Private F.M., aged thirty-three years, had been gored by a bull at the age of twenty-eight years, sustaining injuries to his back, chest and left forearm. Since then he had continuously complained of pain in the back and forearm, the latter being more severely affected since he had "ricked" it three weeks before. A transverse defect in the deep fascia over the *flexor digitorum sublimis* exactly resembled that in Case IV, but it was situated three inches higher in the forearm. There was no evidence of injury to the skin, but a soft bulge appeared when the fist was clenched. The bulge seemed to contain, not muscular tissue, but only soft areolar tissue. The patient complained of an ache over the extent of the flexor muscles, which were acutely tender to deep pressure.

Comment.

In the foregoing cases we are confronted with two unusual responses to mild trauma: (i) failure to heal on the part of a small defect in the deep fascia; (ii) muscular dysfunction with pain. It is well known that even major defects in the deep fascia heal almost invariably, as is evidenced by the reforming of the *fascia lata* after the removal of large strips. Foshee (1943) studied this regeneration in detail in five cases; "with every iota of fascia removed", he states, "new fascia of from half to two-thirds the thickness and tensile strength of the old regenerates to cover the whole area". There seems to be no doubt that the failure of the fascia to unite causes disorder of muscular function, with consequent aching pain.

Treatment.

McMaster treated eight cases by operation to repair the defect; he is not enthusiastic about the results. Schmier attempted to close the gap by injections of sodium morrhuate, with improvement in the symptoms for a few months only. No attempt was made to treat any patients in the present series.

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AN IMPROVISED APPARATUS FOR THE INTRAMUSCULAR ADMINISTRATION OF PENICILLIN.

By R. C. WHITE,

Senior Resident Medical Officer, Ryde District Hospital, New South Wales.

THE miniature drip apparatus shown in Figure I obviates the bugbear of frequent needle puncture when penicillin is to be administered intramuscularly. Although it embodies only one reservoir and must be recharged every three hours, the recharging process is as simple as the preparations which ordinarily have to be made for intramuscular injection. The device possesses all the other features of the types of intermittent drip apparatus so far recommended,[1] with the added advantage of simplicity. It works efficiently with a minimal bulk of solution; the penicillin need not be diluted beyond the standard strength of 5,000 units per cubic centimetre, and no more than about three cubic centimetres are required to fill the tube. The miniature drip trap is capable of very fine adjustment and will deliver the solution at the rate of two cubic centimetres per hour. Overdosage cannot occur, as when the prescribed dose has been administered the flow of solution is automatically stopped and the tube cannot empty itself, nor can air bubbles enter.

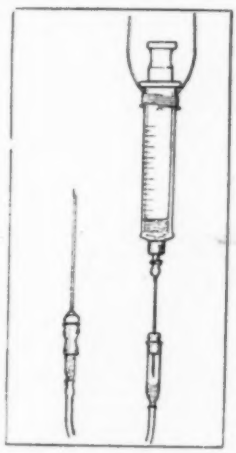

FIGURE I.

The reservoir consists of a 10 cubic centimetre syringe with a glass plunger, fitted with a wire loop to suspend it, as shown.

The miniature drip trap is made from a hypodermic tablet phial, which is drawn out in a flame to a fine bore one and a half inches from the open end. This is then filed through at the constriction and the closed end is discarded. The open end is fitted with a rubber stopper, which is pierced by a number 1 serum needle to form the jet. The drip trap so constituted is attached directly to the syringe nozzle.

The narrowed end of the phial is connected to a suitable intramuscular needle by a length of fine rubber tubing (for example, a piece of discarded Ryle's stomach tubing).

It is necessary to interpose at the needle end an adapter made of a piece of larger bore rubber tubing and a glass connecting piece.

The rate of drip is controlled by an ordinary screw clamp.

To start the apparatus, some solution is drawn up the tube until it appears in the drip trap. The tube is then clamped and the needle is inserted. The syringe is now charged with the required dose for the next three hours, attached to the drip chamber and hung at the bedside. When the rate of drip is adjusted the apparatus requires no further attention for three hours. At the end of this period the syringe will have emptied itself, but the plunger will have descended, sealing off the apparatus, and the level of the fluid in the drip chamber will not have changed. To recharge the apparatus the tube is clamped and the syringe detached; the tube can be laid aside without any possibility of loss of fluid.

The device may have an application in the administration of other drugs, when the slow intramuscular administration of small volumes is required. For example, in allergic states the administration of one cubic centimetre of adrenaline with appropriate dilution up to ten cubic centimetres could be distributed over a period varying between half an hour and five hours.

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Reports of Cases.

ACUTE HODGKIN'S DISEASE: A REPORT ON TWO CASES.

By P. G. DOWLING,
Major, Australian Army Medical Corps.

THE clinical features of two cases of acute Hodgkin's disease are thought worthy of record, as in both the diagnosis was difficult and was established only upon biopsy. The pathological findings, too, should be of interest, in view of the diverse opinions expressed regarding the nature of this disease by many eminent pathologists and clinicians since it was first described by Thomas Hodgkin in 1832. By a coincidence, these two patients, when first examined, occupied adjacent beds in the surgical ward of a military hospital.

Case I.

Sergeant L., aged thirty-one years, was admitted to hospital on March 23, 1944. He complained that for the past three days he had had pain in his right axilla. The pain radiated down the right arm, and across the right pectoral region. His right axillary glands were enlarged, discrete and tender. On March 24 this axillary adenitis was more pronounced, and some œdema of the axilla was present. During the next four days seventeen grammes of sulphanilamide were given. On March 27 the axillary glands were tender, and tender right supraclavicular glands were now present also. The right axilla was incised on March 29, but no pus was obtained, and discharge from the wound was very scanty. On April 7 a few tender, discrete, slightly enlarged glands were noted in the right groin, and there was induration of the skin and subcutaneous tissues about the axillary wound. As cultural examination of material from this wound, taken on April 7, grew a hæmolytic *Staphylococcus aureus*, thirty grammes of sulphathiazole were given between April 11 and 15, without any local or general improvement. On April 15 glands were palpable in the anterior triangle of the neck on the left side. At the base of the right lung impaired resonance and bronchial breathing were present. During the next three days 1,000,000 units of penicillin were given by alternate intramuscular and intravenous injections, again without beneficial result. By April 18 a large mass of glands was palpable in the right supraclavicular region, the signs of consolidation in the right lung were more extensive, and signs at the base of the left lung suggested pleural effusion. An X-ray picture of the chest on April 24 revealed an area of consolidation filling the right cardio-phrenic angle, and there was evidence of atelectasis of the lower lobe of the right lung. There were congestive changes at the base of the left lung. At this time the patient had a cough, and a moderate amount of purulent sputum.

Up to the end of April the patient's appetite and general condition had been well maintained, but during the next two weeks these deteriorated rapidly. By May 3 he looked very ill. He had a dusky malar flush, was emaciated and was having copious sweats. In addition to the glandular enlargements already described, enlarged glands were now present on both sides of the neck, including those in the lateral cervical chains, posterior triangles, and post-auricular regions. The axillary incision was healed, but the surrounding skin was thickened and blue and presented the appearance described as *"cancer en cuirasse"* in cases of carcinoma of the breast. In the skin over the abdomen and chest were about ten nodules, each about 0·5 centimetre in diameter. They were slightly pink, raised, firm and not tender. A post-auricular gland and one of the skin nodules were removed for biopsy on May 4. During the next ten days the skin nodules became more numerous and progressively larger, and there was some softening of their centres. The weakness, emaciation and sweating progressed until the patient's death on May 14, 1944. The duration of his illness was fifty-five days. The temperature chart is shown in Figure I.

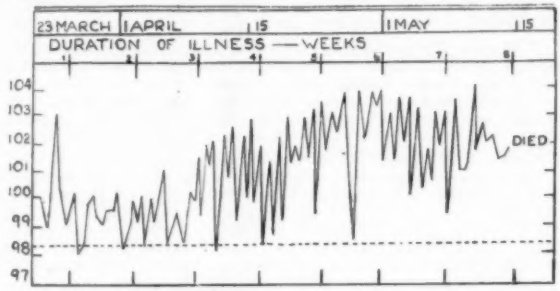

FIGURE I.

A neutrophile leucocytosis was found throughout the illness. The highest count was observed on March 25; the total was 31,000 per cubic millimetre, 85% being neutrophile cells and 7% monocytes. In later counts the total cells ranged from 10,000 to 19,000 per cubic millimetre, neutrophiles comprising 77% to 90% of these totals. There was no increase in the eosinophile cells, and the number of monocytes was not again above normal figures. The hæmoglobin level was found to be maintained in most estimations, being 12·5 grammes per 100 cubic centimetres on March 28 and 11·9 grammes per 100 cubic centimetres on May 8.

Other investigations included the examination of blood films for malarial and filarial parasites, and the performance of the Paul-Bunnell, Widal and Weil-Felix tests, all of which gave negative results. Examination of six specimens of sputum between April 29 and May 10 failed to reveal acid-fast bacilli. The urine, examined on three occasions, contained numerous leucocytes and a few red blood cells, but was sterile. No acid-fast bacilli could be found in a twenty-four hour specimen.

The report on the biopsy was as follows. In the gland, no germ centres were seen. The gland was fibrous, but exhibited a pleomorphic cellular proliferation, the predominant cell being a large endothelial cell showing mitosis. A few "Dorothy Reed" cells were present. The condition was one that Ewing describes as malignant lymphadenoma. In the skin nodule there was a pleomorphic cellular infiltration resembling that of Hodgkin's disease, with many "Dorothy Reed" cells.

Autopsy Findings.

Numerous cutaneous nodules were observed all over the body. The heart was normal in size, the lungs were œdematous and congested, and the liver was moderately enlarged and congested also. The spleen was enlarged to about twice the normal size, the pulp being deep red in colour and very soft. The hilar and mesenteric glands were enlarged. White, fleshy nodules were seen in many sites, including the myocardium, the endocardium near the mitral and tricuspid valves, the substernal fat, the base of the left lung, and the cortex of the kidneys.

Microscopic examination of the nodules in the myocardium showed the muscle to be replaced by the cells typical of lymphadenoma—proliferating endothelial cells and numerous "Dorothy Reed" cells. A similar microscopic picture of lymphadenomatous infiltration was seen in nodules from the skin, from the substernal fat, from the endocardium, from the hilar and mesenteric glands, from the kidneys, and in tissues on the surface of the right lung macroscopically regarded as fibrin. The nodule in the left lung contained more lymphocytes than those in other situations. The spleen was congested and contained similar tissue to that seen in the glands and nodules, though fewer "Dorothy Reed" cells were present.

Case II.

Private W., aged twenty-seven years, was admitted to a camp hospital on March 28, 1944, complaining of pain in the right groin of three days' duration. When transferred to the military hospital on April 3, he stated that the pain had

become more severe. He was rather thin and looked pale, though the hæmoglobin value of his blood was 14·4 grammes per 100 cubic centimetres. There were several enlarged, discrete and tender glands in the right groin. No recent cutaneous lesion could be found on the lower extremities, buttocks or perianal region. On April 5 his temperature had risen to 103° F., and he complained of headache, general malaise and cough. Sulphanilamide was given (twenty grammes in four days), and morphine was administered for the pain. The pyrexia persisted until April 12, by which time the general symptoms were relieved, though the inguinal glands were still enlarged and tender.

On April 16 the patient complained of abdominal pain, at first colicky, later persistent. The onset of pain was followed by vomiting. He looked ill, and tenderness and some rigidity were present in the upper left quadrant of the abdomen. On April 19 his temperature rose to 104·6° F. (see Figure II), abdominal pain was severe, and the right inguinal swellings had increased in size. Aspiration of these glands on April 20 produced only a little blood-stained fluid, which was sterile. The pyrexia subsided by April 26, and on this date, right inguinal glands were removed for biopsy

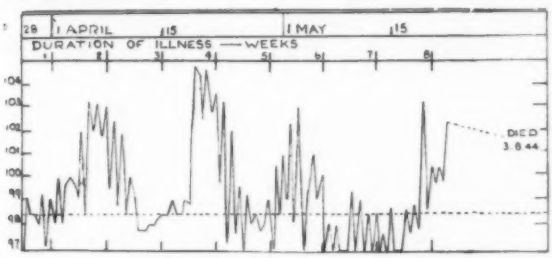

FIGURE II.

On April 29 the abdominal pain, vomiting and pyrexia recurred. The fever lasted until May 6. Examination during this period revealed a tender enlargement of the submandibular lymph glands on both sides of the neck. Small glands were palpable in both axillæ. Dulness to percussion, diminished air entry and diminished vocal fremitus were present at the base of the right lung, and a soft systolic murmur was heard at the apex of the heart. The edge of the spleen was palpable two centimetres below the costal margin and was tender. After May 6 the general condition improved for the next eleven days, though progressive enlargement of the submandibular glands occurred.

On May 17 the patient had more abdominal pain, and now had bilateral enlargement of the cervical, axillary and inguinal glands, fresh swellings having appeared in the right groin. In addition, two firm, slightly tender subcutaneous nodules, about one centimetre in diameter, were palpable over the left infraspinatus muscle. His pallor had increased, the hæmoglobin value of his blood having fallen to 9·8 grammes per 100 cubic centimetres on May 10.

On May 17 he was given a transfusion of two litres of citrated blood. X-ray therapy to the axillæ and groins was given on May 24. A second treatment was given on June 6, both groins and the left side of the neck being irradiated on this occasion. From about May 22 he showed considerable general improvement. He became afebrile on May 26, and there was a diminution in the enlargement and tenderness of all the affected glands. He had been confined to bed since his admission to hospital, but he now recovered sufficiently to get up, and was able to go about without discomfort. This period of remission lasted about five weeks.

At the end of June, the patient's condition relapsed. He became febrile, his cervical, axillary and inguinal glands became enlarged and painful, and there were signs suggestive of consolidation in both lungs. An X-ray examination on June 30 revealed dense infiltration of both lung fields, particularly in the lower zones. During the first week in July, firm, painless, purplish nodules developed in the skin of the anterior aspect of the trunk. From this time the fever persisted, cachexia became pronounced and the skin nodules were very numerous. He died on August 3, 1944, his illness having lasted 132 days.

The leucocytes on April 3 numbered 19,000 per cubic millimetre of blood; 76·5% were neutrophile cells, 0·5% were eosinophile cells, 8% were lymphocytes and 15% were monocytes. On April 7 the monocytes were 15% of a total of 8,000 leucocytes per cubic millimetre, but subsequently the number was not increased. Later leucocyte counts showed totals from 11,000 to 22,000 cells per cubic millimetre. Eosinophile cells never numbered more than 400 per cubic millimetre. Daily leucocyte counts during the febrile period between April 29 and May 6 indicated that the leucocyte totals rose and fell along with the fever. Examination of blood films for parasites, attempts at culture of micro-organisms from the blood, the Paul-Bunnell, Weil-Felix and Widal tests—all gave negative results.

The report on the biopsy was as follows. The gland from the right groin was fibrous; germ centres had practically disappeared, lymphocytes having been replaced by endothelial cells and giant cells typical of Hodgkin's disease.

Autopsy Findings.

The body was emaciated. Numerous skin nodules, some hæmorrhagic, were seen all over the body. Enlarged glands were present in the right anterior triangle of the neck, the axillæ, the groins and the right epicondylar region. The heart was affected by a serofibrinous pericarditis, and the muscle was pale and flabby. Nodules were present throughout the myocardium, and in the mitral and tricuspid valves. The lungs were congested and studded with nodules, and there was an increase of fluid in the right pleural cavity. The hilar and mediastinal glands were moderately enlarged. The liver and spleen were enlarged and congested, the liver containing one nodule four centimetres in diameter. Nodules were seen on the intestinal wall, on the surface and in the cortex of the kidneys, and in the suprarenal glands. The mesenteric glands were much enlarged and the peritoneal fluid was greatly increased.

A hilar gland was histologically examined. The normal lymph gland architecture was completely replaced by a pleomorphic cellular proliferation. The cells varied in size and shape, and in the staining characteristics of their cytoplasm and nuclei. Numerous giant cells, some uninuclear, others binuclear and a few multinuclear, were to be seen; these were typical "Dorothy Reed" cells. An occasional eosinophile cell was present. The cellular proliferation had extended beyond the capsule and invaded the surrounding adipose tissue.

Examination of sections of the heart revealed a large area of pleomorphic cellular tissue infiltrating the surrounding myocardium. The muscle fibres were pale, their striations barely visible or absent. A loose cellular connective tissue stroma separated the individual muscle fibres.

Examination of other sections revealed similar pleomorphic cellular tissue, diffusely infiltrating the parenchyma of liver, splenic pulp and lung. The lung alveoli were filled with fibrin, and contained pigment-laden histiocytes, pleomorphic cells and multinuclear giant cells. More localized areas of infiltration were present in the kidneys, the suprarenal glands and the bone marrow. In a section of kidney tissue one large artery was seen to be plugged with pleomorphic cells and giant cells. In sections of the skin nodules were seen several areas of pleomorphic cellular infiltration of the dense hyalinized subcutaneous tissue, in addition to diffuse involvement of the corium. The overlying squamous epithelium was thinned and ulcerated.

Comment.

Both these patients were first regarded as suffering from adenitis due to infection by one of the pyogenic organisms. As it became evident that this diagnosis was incorrect, and as some monocytosis was detected in early leucocyte counts, infectious mononucleosis was next considered as a possibility. Acute leuchæmia was excluded by the absence of primitive cells in stained blood films. The tests enumerated above indicate the various microbic and parasitic infections which were sought for and excluded by negative results. In both cases biopsy revealed the pleomorphic proliferation of reticulo-endothelial cells and giant cell formation, characteristic of Hodgkin's disease. The temperature chart in Case I (Figure I) showed continuous fever with irregular remissions. That in Case II (Figure II) in the early part of the illness was of the "Pel-Ebstein" type, displaying febrile periods of eight to twelve days' duration, alternating with afebrile intervals of four to eleven days' duration.

Acknowledgements.

The biopsy and autopsy examinations in both these cases were carried out by the late Major Leslie Utz. I am indebted to Lieutenant-Colonel Lorimer Dods and to Major E. F. Shaw for assistance in the preparation of this report. The Director-General of Medical Services has kindly given permission for the publication of this paper.

Reviews.

AMPUTATIONS.

AT a time like the present the subject of amputations comes up for discussion with great frequency amongst surgeons. In "Modern Methods of Amputation"[1] Professor Vasconcelos has provided a clear and interesting account of many aspects of the subject. The book is not of a convenient size for army surgeons whose libraries are usually portable, but this is compensated for by the clarity of print and the ready understanding of the excellent diagrams.

There is an introductory survey of "The Development of Amputation" by Norman T. Kirk, Surgeon-General of the United States Army. This should be read by all young war surgeons. It gives an excellent perspective of amputations in relation to their historical development. There is some irrelevant material, but the review is clear, instructive and well balanced. We sometimes forget the lessons learned by surgeons, often centuries ago, in the hard school of experience and rediscover these with ill-merited pride. For example, before antiseptics and anæsthetics were known it was agreed by surgeons that flaps should not be sewn when they were performing amputations on the field of battle. Mortality was higher when the flaps were sewn, death being due to sepsis and secondary hæmorrhage. Amputations are divided into "closed" and "open" amputations, the former being performed with sewn flaps and the second being synonomous with the guillotine amputation. One cannot agree with this. The value of amputation with unsewn flaps has been proven during this war provided that the dressing is so arranged that, to all intents and purposes, the amputation is a completely open one. Of course, when this book was published the place of penicillin had already been recognized in the treatment of battle casualties. There is no mention of this, since the book is, in effect, an "official report submitted by the author at the Third Brazilian and American Surgical Congress, which met in Rio de Janiero, November, 1941". It is noted with surprise that the writer refers to "personal experience of some 1,500 primary amputations, repair of guillotine stumps and re-amputations". In passing, the incision which we usually call a "racquet" or "raquette" incision is spoken of as a "ratchet".

As one reads the introductory history, one is impressed with the outstanding achievements, both as to manual dexterity and judgement, of Larrey. Not only could he perform two hundred amputations in twenty-four hours, but his views as to the type and time of amputations were excellent in the light of the surgical knowledge of his day.

Professor Vasconcelos has written a book of value especially for repatriation and civil surgeons. It is disappointing that no reference is made to conditions as seen in forward areas, which, after all, are the places where knowledge and judgement in regard to amputations are of paramount importance. All procedures described in this book refer to cases in which no sepsis is present, and, even so, in the chapter of general technique, there is too much mention of suturing. While amputations should be done carefully and not roughly, as is frequently suggested, the careful suturing to the degree recommended is unnecessary, if not unwise. In this same chapter it would have been advisable to describe amputations performed without a tourniquet, which is necessary in some circumstances.

The discussion of levels of amputations is excellent and has a distinctly practical flavour. However, there is a slight disturbance of balance and proportion owing to the author's interest in amputations through the foot which are discussed at some length. These, of course, have been discarded by most surgeons because of equinus and other deformities. In this book an operation is described which is said to obviate these difficulties.

There is no mention made of kinæsthetic amputations of the forearm. Sometimes practical points are omitted, although this is unusual throughout the book. In Figure 49, for example, most surgeons would agree that a pad should have been placed between the tourniquet and the arm even though a wide one was used. A word of warning on the use of tourniquets would have been apposite. The tourniquet as applied in Figure 62 is even more dangerous.

We cannot see the point of wrapping up the limb in 90% alcohol on the night preceding operation; nor does it appear wise to postpone the commencement of the treatment of shock until it becomes manifest, as is suggested on page 54. The usual practice is to institute such therapy before the shock is apparent. It is not considered advisable to nurse the stump after amputations through the thigh on a pillow as is recommended here since flexion deformity must be avoided.

A method of open operation with flaps is mentioned, but this, as described, has little to recommend it, and, considering the indications for guillotine amputation or its infundibuliform modification, the practice of performing a closed amputation by this method (as seen in Figure 207) seems most unwise. Of course, the methods of combating infection as described are now somewhat out of date. In the chapter on the indications for amputation, arteriosclerosis is accredited with causing most of the gangrene of vascular origin. It is doubtful whether this is the experience of most surgeons. In this book a discussion of the reasons for performing amputation in cases of malignant bone tumour would be out of place, but, on the other hand, it is too much to assume, as has been done here, that such a procedure is done for these lesions without any qualification. The techniques as given in the description of individual operations are excellent. The steps are clearly described and are obviously the fruit of practical experience. We would, however, disagree with disarticulation of the index finger, and, in these days of efficient intravenous anæsthesia, this may be preferable to local anæsthesia in operations on the fingers. The diagram demonstrating amputation through the thigh suggests that the stump is too long.

The description of techniques closes with a clear and helpful account of disarticulation of the hip joint. It would seem that a small error had occurred where the *adductor longus* muscle is meant instead of *adductor brevis*. This is substantiated by Figure 209. However, it is not an important error.

The final chapter on prosthesis should be read by all surgeons who are likely to have patients needing a prosthesis under their charge. There is too often a divorce between the operating surgeon and the limb factory. A closer liaison between the two is desirable and the inclusion of this chapter has been wise.

[1] "Modern Methods of Amputation", by Edmundo Vasconcelos, with an introductory survey of the Development of Amputation by Major-General Norman T. Kirk, M.C.; translated from the Portuguese by Walter Ratto; 1945. New York: Philosophical Library, Incorporated. 10½" × 8½", pp. 286, with many illustrations. Price: $10.00.

CONSTITUTION AND DISEASE.

As Professor Julius Bauer states in the introduction, "'Constitution and Disease' was written with the object of familiarizing the reader with the principles of 'constitutional thinking' at the patient's bedside".[1] "Constitutional Pathology", the alternative title of this book, is optimistically defined as the science concerned with all problems arising from abnormal constitution and with "the detection of constitutional anomalies that are operating as ætiological factors in disease".

The subjects discussed by Professor Bauer cover a very wide range and include Gower's abiotrophies, "precipitated senescence", the part played by genetics in constitutional pathology, "constitutional biologic inferiority of organs and tissues", "the endocrine system as a mediator between constitution and effector organs" and "the integrative systems of individual constitution".

In a section devoted to the "classification of normal and abnormal constitutions", the author emphasizes the importance of not confusing biological inferiority with social and cultural inferiority and instances the fact that great artists, scientists and leaders are not infrequently "constitutional deviants": "Their specific genius is only one form of constitutional deviation; the frequently accompanying series of others, however, may make them biologic liabilities. They frequently have to pay with biologic inferiority for their cultural superiority. Beethoven's otosclerosis, Mozart's early tuberculosis, Napoleon's familial tendency to cancer of the stomach, are examples."

After reading this book we are tempted to quote some statements on the same subject attributed to Socrates: " . . . you may have heard eminent physicians say to a patient who comes to them with bad eyes that they cannot cure the eyes by themselves, but that if his eyes are to be cured his head must be treated; and then again they say that to think of curing the head alone and not the rest of the body is the height of folly, and arguing in this way they apply their methods to the whole body and try to treat and heal the whole and the part together."

[1] "Constitution and Disease: Applied Constitutional Pathology" by Julius Bauer, M.D.; Second Edition; 1945. New York: Grune and Stratton. 8½" × 5¾", pp. 261, with seven illustrations Price: $4.00.

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THE FUTURE OF PSYCHIATRY IN AUSTRALIA.

ONE of the most striking features of medicine during recent years has been the intrusion of psychiatry into almost every type of practice. Students of medicine—and by that term are meant practitioners who try to keep themselves abreast of new trends and new discoveries in medical science—are realizing more and more that mind and body are inextricably interwoven, that involvement of one in what is known as a disease generally means that the other is affected in greater or less degree and that health cannot be regained unless both mind and body recover from the affection. Latterly we have heard much about psychosomatic medicine, and the end is by no means yet; psychosomatic surgery has been proclaimed with every justification as worthy of attention; and in these columns the question has been asked why psychosomatic obstetrics should not be taught. This newer knowledge, or perhaps we should call it this newer realization, means of course that no practitioner treating a patient who is suffering from a disease of the body can afford to overlook the influence of the mind, even as no psychiatrist can be negligent of a possible somatic basis to his patient's mental disorder. But we must go further than that. Since the general physician, if he is to understand the manifestations of disease in his patient's body, must know something of the normal condition of that body, of how the body functions and how it may be kept in health, so if he is to understand the mental factor in bodily disease, he must know something of the normal mind, how it functions and how it may be kept in health. In these circumstances it will be useful to inquire into what psychiatry really is and to discuss its range.

If we accept the ordinary dictionary definition of psychiatry as that branch of medicine which deals with "the recognition and treatment of diseases of the mind", we do not go far enough and we make the subject seem simpler than it really is. A convincing discussion on psychiatry and its range has been published by Dr. Alan Gregg, Director of the Medical Services Division of the Rockefeller Foundation.[1] Gregg points out that psychiatrists study and treat human beings who are inadequate or actually dangerous in their behaviour as members of society. It therefore happens, he adds, that psychiatry as the study of disordered conduct is intimate to an almost suspicious degree with ethics, with cultural anthropology, with sociology, with metaphysics, with religion and with artistic activities—and this despite the fact that the behaviour of a human individual as a whole should be as soundly understood in terms of medicine as the behaviour or function of any of his component organs. To help in an understanding of what psychiatry is, Gregg presents two ideas. The first is that the psychiatrist studies the function and the influence of mental processes and emotional states in the whole vast range from incurable disease to optimum health; the second is that he seldom handles conditions which he can describe without reference to the demands of society on the individual. The range of psychiatry thus becomes clear. To quote Gregg, it covers "the conduct of man, his reactions, his behaviour as an indivisible sentient being with other such beings". The field has gone far beyond that concerned with grossly disordered conduct—"it reaches into the anxieties, the fatigues, the instabilities, the adjustments, the disturbance of normal everyday living"; moreover, "it includes the effects of mental and emotional functions upon the component organs of the body as well as the effects of disorders of these organs upon the functions of the human being as a whole". Any discussion on the nature and range of psychiatry will be incomplete without some reference to psychology. It is commonly said that psychology stands in the same relationship to the practice of psychiatry as physiology to the practice of general medicine. The statement is sound, though unhappily its truth is apt to be forgotten and may be deliberately set on one side. This is a large subject which really calls for a separate discussion. Gregg states that though in theory psychology should be the handmaiden to psychiatry, she is really a very green-haired girl with almost as much to unlearn as to acquire before she becomes indispensable to the psychiatrist. That this may to some extent be due to the ignorance and neglect of medical practitioners is undeniable, and this fact alone, if it can be appreciated, should stimulate such interest that some of the leeway will be made good.

We have seen that psychiatry has a bearing on almost every branch of medicine and also that its study covers the whole range of the activities of man. At this stage of Australia's development we need to ask whether psychiatrists are being given enough opportunities to advance their knowledge and to be of the greatest possible use to the community and to their own profession. By far the greater number of psychiatrists in Australia are departmental officers. As members of a service they have their set duties and set periods when they are not on duty. They must rely for purposes of study on the leisure that is available to them, on journals and books, and on such opportunities for discussion as their membership of medical associations and societies and the genius of their departmental heads in the arranging of scientific staff meetings

[1] *British Medical Journal*, April 22, 1944, page 550.

will provide. In the ordinary course of events very few, if any, have opportunities of travel overseas for purposes of study, and in peace-time Australasian congresses are held at most once in three years. The question arises whether the time has not arrived when a "special group" of psychiatry within the ambit of the British Medical Association in Australia should be formed. In the post-war years the needs of the Commonwealth in the matter of nervous disorders and psychological maladjustments will be greater than they have ever been before. The members of the profession in general practice will have to bear their share of the burden, but they will need to have at their back well-trained and experienced psychiatrists in large numbers and easy of access. To say that Australia needs more psychiatrists does not provide an answer; to supply them would not be sufficient. All those who practise psychiatry should have frequent opportunities of discussion with one another. This would be possible with an annual meeting of a special group, provided departmental heads made it possible for as many of their officers as could be spared to attend. The departments would even find it worth while to pay the travelling expenses of some of their officers to these meetings. One final point that must be made has to do with preventive medicine. Preventive psychiatry is or should be a part of preventive medicine, but we wonder if those who plan preventive medicine crusades will ever become so realistic as to coopt to their executive bodies a trained and far-seeing psychiatrist. Some day (who knows?) even the Branches of the British Medical Association and the Federal Council may think of the psychiatrist when they are planning something for the enlightenment and instruction of the public.

Current Comment.

CAFFEINE AND PEPTIC ULCER.

DURING the last year or two investigations have been made into the effect of caffeine on the gastric mucosa. Interest seems to have been awakened in the subject by Judd, who reported in 1943 that gastric ulcers occurred in cats when they were given caffeine in a beeswax-petrolatum mixture. In a paper read at the annual meeting of the American Medical Association in June, 1944, J. A. Roth, A. C. Ivy and A. J. Atkinson[1] pointed out that smoking and the consumption of alcoholic beverages were forbidden to patients suffering from peptic ulcer, but that the drinking of beverages containing caffeine had not as a rule been restricted, except in some cases during the early phase of the management of the active ulcer. They also drew attention to two facts—first, that caffeine does not stimulate gastric secretion in all species of animals, and secondly, that disagreement is found in the literature about the effect of caffeine in man. Roth, Ivy and Atkinson showed that caffeine in relatively large doses causes acute and subacute ulceration in the gastric mucosa of cats, that it stimulates gastric secretion in man and the cat but not in the dog, and that it acts synergistically with histamine on alcohol in the stimulation of gastric secretion in man and the cat. These authors also studied the gastric secretory response to beverages containing caffeine and to histamine or alcohol in the stimulation of gastric secretion in man, the former in virtue of the caffeine and the latter because of secretagogues which they contain. Of 36 patients suffering from peptic ulcer, 25 reported that the taking of coffee aggravated their symptoms. Roth, Ivy and Atkinson held that the taking of beverages containing caffeine should be restricted by patients with ulcer, and that if small amounts were allowed they should be taken with cream and sugar. They pointed out that the stimulation of gastric secretion by a substance was not in itself a sound reason for the interdiction of that substance. Otherwise it would be necessary to forbid the taking of protein food "which serves an important role in the therapeutic rationale of frequent feedings with milk and cream". The reason why caffeine and caffeine-containing beverages should be avoided by the ulcer patient was: (*a*) because they do not provide a "buffering effect", but provoke a prolonged secretion of acid in ulcer patients, and (*b*) because caffeine produces vascular and "cellular" changes which apparently render the mucosa susceptible to erosion.

Roth and Ivy have reported another investigation into the pathogenesis of caffeine-induced ulcers.[1] They have carried out experiments on cats. They made an incision into the stomach of the animal, everted the mucosa and formed a stoma. Sections of the stomach wall were cut both before and after the intravenous administration of caffeine. Control experiments were also carried out by the substitution for the caffeine of sodium benzoate in physiological saline solution. The administration of caffeine was followed by persistent reddening of the mucosa and then by cyanosis. The changes are described in detail and are regarded as suggesting the following train of events: vasodilatation and engorgement, vascular stasis, local anoxia, increased capillary permeability, transudation, extravasation of blood elements, and decreased cell nutrition. Having noted the changes produced in their experiments, Roth and Ivy in their discussion refer to the fact that caffeine and its related beverages have been shown to be stimulants of both the acid and the pepsin content of gastric juice of man and the cat. There is also a good deal of evidence to show that excessive and continuous secretion of gastric juice with relative or absolute deficient neutralization is one of the major factors in the pathogenesis of human peptic ulcer. It was in the light of these considerations that the experimental production of ulcers was attempted. The constant elaboration of gastric juice was attempted so that when the stomach was empty of food a relatively deficient neutralization would be obtained. The attempt was made by the embedding of caffeine in a mixture of beeswax and mineral oil, in the same way as histamine is embedded for the production of "histamine ulcers". Roth and Ivy point out that when a histamine mixture is implanted subcutaneously infectious abscesses have almost invariably developed at the site of injection, and a possible relationship with chronic foci of infection is postulated in regard to them. They think it unlikely that any similar factor is concerned with "caffeine ulcers" because they failed to observe any abscesses when a caffeine mixture was implanted intramuscularly. They refer to the emphasis sometimes placed on acid and pepsin factors of gastric juice, but they insist that the distinction is artificial, since the proteolytic action of gastric juice is not due to acid or pepsin alone, but to pepsin in acid solution. Of great importance is the view that ulcer of the stomach is in some way due to a local loss of resistance on the part of the mucous membrane to the digestant action of the gastric juice. Roth and Ivy think that too much attention has been paid to acid and pepsin and not enough to the factors which increase the susceptibility of the mucosa to the proteolytic action of acid and pepsin. This is where caffeine comes into the picture, for it increases the susceptibility of the mucosa by the vascular and "cellular" changes that it induces.

Another study on the influence of caffeine on the genesis of ulcer has been published by K. A. Merendino, E. S. Judd, I. Baronofsky, S. S. Litow, B. G. Lannin and O. H. Wangensteen.[2] They write from the department of surgery of the University of Minnesota. They describe experiments carried out on guinea-pigs and cats and also some observations made on man. In the experiments on man an attempt was made to study the effect of caffeine on gastric acidity. It was recognized that, to be of any significance, the

[1] *The Journal of the American Medical Association*, November 25, 1944.

[1] *Surgery*, May, 1945.
[2] *Surgery*, May, 1945.

observations would have to be made with caffeine given in the range of quantities ingested in everyday activity. Coffee was therefore used. Patients were chosen at random and observations were made on samples of gastric juice collected through a nasal tube passed into the stomach. Black coffee was given, hot and cold, by mouth and through the nasal tube. In each of these categories a stimulatory effect was noted in the majority of instances. The severest effect was noted when cold black coffee was given by mouth; close to these results were those given by subjects who received cold black coffee by nasal tube. The stimulation of acid with hot black coffee given by nasal tube was not so pronounced as it was when the hot coffee was given by mouth. Observations were also made after the parenteral administration of caffeine-containing drugs; in nine out of ten experiments a striking stimulatory response of gastric acidity was observed. Merendino and his co-workers conclude that man's gastric secretory mechanism is exceedingly sensitive to caffeine stimulation. They also produce arguments to show that the stimulatory effect of caffeine occurs mainly as a result of direct action on the parietal cells of the stomach.

These observations are all of interest, and they indicate a general trend which treatment of the patient with peptic ulcer should take. But no hard and fast rule can be laid down and every patient presents his own peculiar problem. For example, Roth, Ivy and Atkinson remark that the psychological hardship of total abstinence from caffeine-containing beverages is sometimes more aggravating to the ulcer patient than are the pharmacodynamic effects of a contraindicated substance. Again, in the discussion that followed the reading of Roth, Ivy and Atkinson's paper, A. F. R. Andresen did not regard as justified the suggestion that human peptic ulcers might be caused by the taking of caffeine. At the same time he admitted that sudden excessive consumption of caffeine by patients subject to the development of ulcers might conceivably be the irritant which started an attack. Andresen would not agree that the erosions seen in experiments on cats bore any resemblance to discrete human peptic ulcer. He had found that patients whose focal infections had been eradicated could drink coffee with impunity. Finally, although he told no "antecedant story of ulcer", we should, strictly speaking, be sceptical of the previous history of the man, mentioned by Merendino and his fellow workers, who was admitted to hospital with a perforated "peptic" ulcer and gave a history of having ingested over 150 bottles of an iced kola drink over a period of five days. But scepticism, like credulity, should not be carried too far, and it is safe to conclude that the bibulous feat of the patient in question was a direct cause of his gastric catastrophe.

FRACTURES OF THE CARPAL SCAPHOID.

TREATMENT of fractures of the carpal scaphoid is still a vexed problem. D. M. Meekison[1] discusses the problem in the light of a series of 115 cases encountered in the Royal Air Force. He emphasizes the importance of correct diagnosis, and deplores the fact that the fractured scaphoid is sometimes treated as a sprained wrist. When this occurs, and unfortunately it still happens too often, it is not only the patient who lives to rue the error. It is essential to subject to X-ray examination and to immobilize any wrist affected by a severe sprain, especially if tenderness is present over the "snuffbox" area. As it is well known that in this bone the fracture line does not always show in skiagrams taken soon after the injury, the carpus should be examined again with X rays after three weeks' immobilization, when the fracture line will be more evident. In an X-ray examination of a scaphoid that has been immobilized in a plaster cast, it is essential that the cast should be removed carefully and that the skiagram be taken immediately; the patient should also be warned not to "try out" his wrist. If necessary, the plaster cast should be then reapplied at once. Meekison states that fresh fractures do not present a problem as they unite when properly immobilized. However, in practice there is the occasional fracture that fails to unite even when correctly immobilized in plaster and on the day of injury. For old ununited fractures Meekison discusses four methods of treatment: prolonged immobilization, excision of the proximal fragment, application of a bone graft and arthrodesis of the wrist. He does not mention the method in which multiple drill holes are made, in the belief that they promote union. It is of interest to note that good results in the treatment of old ununited fractures have been achieved by some Australian army surgeons by the use of beef-bone screws.

From time to time cases of symptomless non-union are seen in practice, and these seem to bear out the view expressed by Girdlestone in his recent presidential address to the British Orthopædic Association that the problem is not so much one of union or non-union, as of position or malposition of the fragments. Thus a malunited scaphoid causes more symptoms than one in which the fragments are ununited but in good position. The best method of treatment for ununited fractures of this troublesome little bone has not yet been found. The present indications are that in the search for the ideal method, the operative procedures devised will be outnumbered, in orthopædic surgery, only by those devised to cure recurrent dislocations of the shoulder.

[1] *The Journal of Bone and Joint Surgery*, January, 1945.

THE UNIVERSITY POSITION IN VICTORIA AND AT CANBERRA.

IN a leading article in this journal a week or two ago reference was made to the possible establishment in the not-too-far-distant future of new universities in some of the States of the Commonwealth. It was therefore of interest to see a statement entitled "University Facilities at Ballarat" in the *University Gazette* of July 18, 1945. This gazette is a journal published "as occasion requires" by the Registrar for the Council of the University of Melbourne. It appears that the Mayor of Ballarat approached the University of Melbourne in regard to the provision of university facilities for his city. A committee of the Professorial Board visited Ballarat to confer with representatives of the municipality and of education authorities. Subsequently the Council approved of a letter which has been sent by the Vice-Chancellor in reply to the Mayor's proposals. The letter indicated that the Council is in favour of a measure of decentralization of university education in Victoria and would welcome the establishment of university colleges in Ballarat and other centres to undertake the teaching of first-year arts and science subjects which form a groundwork of most university courses. The Council recognizes that a college at Ballarat would alleviate some of the difficulties of the University of Melbourne in the matter of accommodation of large first-year classes. Fortunately the Council takes the wider view and looks further ahead. When it comes to a question of the establishment of a complete new university, the Council thinks that there will for a long time to come be room in Victoria for only one efficient institution of full academic status outside Melbourne. The location of such a university is, the Council holds, a question on which all interested parties, including the State Government, other municipalities and the University of Melbourne, should be invited to confer. The statement concludes with the sentence: "Unless there is an early determination of policy in this regard, the establishment of colleges could easily develop into a competition in a field of very limited possibilities which could only have a bad effect on the quality of them all."

In the same gazette we read that the University Association Council at Canberra at its annual meeting in May, 1945, recommended the incoming council to give renewed consideration to the establishment of a university at Canberra and to confer on the matter with bodies and persons interested in university administration, research and teaching. Such moves and discussions as these are welcome.

Abstracts from Medical Literature.

DERMATOLOGY.

Malignant Melanoma.

MARGARET C. TODD (*The Lancet*, October 21, 1944) states that there is no greater tragedy in medicine than the death from multiple metastases of a young patient who has been in perfect health until a small pigmented mole is removed for cosmetic reasons. Ignorance regarding the great danger of interfering with any pigmented mole or birthmark still prevails, and suffering and death result from inefficient treatment both by general practitioners and in hospital out-patient departments. Incorrect methods include simple excision under local anæsthesia, a ligature tied around the lesion by the physician, and cauterization with carbon dioxide snow, silver nitrate *et cetera*. Such treatment led to rapid death in thirty-four cases referred to the Holt Radium Institute when appearance of recurrence or metastasis caused alarm. A pigmented lesion with no signs of active growth should never be removed for cosmetic reasons, or if the patient insists, despite warnings, removal should be as radical as if the lesion showed signs of active growth. If a lesion likely to be a melanoma is growing, treatment must be radical, either by extensive surgery or by irradiation to the highest dose. If regional lymph nodes are involved, treatment is surgical, consisting of excision of both primary lesion and nodes with, if possible, the lymphatics between them. When metastases are already present beyond the regional lymph nodes, cure is practically impossible. Palliative radiation may be tried, as it sometimes prolongs life and prevents suffering by delaying the local breakdown of lesions on the surface until metastases in the lung or liver end life.

Treatment of Lupus Erythematosus Disseminatus by Internal Administration of Iodine.

R. S. SULLIVAN (*Archives of Dermatology and Syphilology*, January, 1945) recalls the beneficial results that he had often observed in fixed types of discoid *lupus erythematosus* when the lesions were painted with a solution of strong iodine, and he decided that in all probability it was the iodine which had been the healing agent. He resolved to give iodine internally at the first opportunity. Subsequently he treated by this method five patients who were suffering from disseminated *lupus erythematosus*. Treatment was successful. Every physician knows that it is sometimes difficult to recognize the various types of *lupus erythematosus*, particularly when few or no constitutional symptoms are present. The symptoms of this disease are easily confused with those of dermatomyositis, scleroderma and acute rheumatic fever. The pathological changes are also strikingly similar to those that occur in the three diseases mentioned, all affecting principally the vascular system. There are many views as to the cause of *lupus erythematosus*, the two most widely accepted being tuberculosis and streptococcic infection. Whatever the cause of *lupus erythematosus disseminatus*, one point stands out clearly in the cases observed by the author. Each patient gave a history that exposure to light or severe sunburn always preceded the appearance of the cutaneous lesions. A complete history, examination and treatment of the five patients is given. Each patient was given a strong solution of iodine (United States Pharmacopœia) in doses of three drops three times a day and increased in some cases to twenty drops three times a day, or 3% tincture of iodine, first three drops and increased to nine drops, depending on the patient's tolerance to the drug. The author digresses here to mention an unusual reaction which he observed following the local application of iodine in a case of discoid *lupus erythematosus*. He painted an area with a 15% solution of iodine for several days in succession. The patient acquired a high degree of idiosyncrasy to the drug, as manifested by an almost unbearable headache chiefly in the occipital region, deep redness of the face and conjunctivæ, with watering of the eyes, rapid pulse and respiration, and, at various times, a rise in blood pressure. Coincident with the iodine medication, there was an appreciable lessening of the constitutional symptoms with clearing of the skin. All five patients are now free of symptoms except one, who has transient pains in her fingers at night. All have gained weight. The cutaneous lesions have entirely disappeared. The author believes that iodine should be given a trial in all cases of disseminated *lupus erythematosus* in which other remedies have failed. He also considers that it is wise to build up the patient's general health by a high caloric diet, if possible one which provides 3,000 to 5,000 Calories a day.

The External Use of Sulphonamides.

S. EPSTEIN (*The Urologic and Cutaneous Review*, August, 1944) states that sulphonamide ointments, lotions and powders should be used only with proper indications. Physicians should become aware of the special danger of sensitization in infectious eczematoid dermatitis. Patients with this condition have a particular capacity to become sensitized to anything and everything. The area of application of sulphonamide ointments in these cases should be small. In an infectious eczema with generalized eruption only the original lesion is infectious. The use of sulphonamides should not be prolonged. Sensitization usually occurs after an incubation period of five to nine days from the beginning of medication. If the drug is discontinued before this time dermatitis is less likely to occur. The author uses sulphanilamide rather than sulphathiazole in ointments and lotions, and the clinical effect appears as good as that from sulphathiazole. Sulphanilamide is sometimes more difficult to incorprate in ointments, but it is easily incorporated in lotions. A 5% to 10% sulphanilamide lotion is helpful in staphylococcal impetigo and also in streptococcal impetigo after the crusts have been removed. Sulphanilamide, 3%, incorporated into an ichthyol zinc oil is effective in combating or preventing secondary infection in acute and subacute dermatitis. The use of sulphanilamide instead of sulphathiazole does not, however, eliminate the danger of sensitization. A patient should be informed that he has become sensitive to a sulphonamide to avoid trouble later. Penicillin should be used in the treatment of patients who are sensitive to sulphonamides.

Erythema Multiforme and its Relationship to Herpes Simplex.

N. P. ANDERSON (*Archives of Dermatology and Syphilology*, January, 1945) states that the ætiological concepts of *erythema multiforme* have been those of association with definite infections. Thus it has been described as following smallpox vaccination or as occurring in the course of such diverse infections as typhoid fever, diphtheria, syphilis, tuberculosis, cholera, pneumonia, malaria *et cetera*. Its frequent association with menstruation has been noted. The theory of focal infection has received considerable support. Other authors have considered the disease is due to anaphylaxis caused by absorption of some chemical product from the intestines or other passages or from a diseased organ. The tendency of *erythema multiforme* to recur in the spring and autumn suggests that atmospheric influences play a part. The involvement of the back of the hands and the sides and back of the neck fits in with the suggestion that exposure to sunlight has an effect. The correctness of these observations is not in doubt. They have, however, led to no therapeutic success. Forman and Whitwell in 1934 noted the frequent association of *erythema multiforme* with *herpes simplex*; they also remarked that *herpes simplex* often precedes an attack of *erythema multiforme* and that recurrent *herpes simplex* is common in patients with *erythema multiforme*. The usual clinical sequence is as follows. The patient gives a history of repeated attacks of "cold sores" over several years, following a common cold or exposure to sunlight or wind. After the last attack of *herpes simplex*, at an interval of four days to two weeks, a typical attack of *erythema multiforme* develops. By the time the patient consults a physician there is either no trace of previous *herpes simplex* or only a small crust remains. The *erythema multiforme* follows its usual course and subsides. In a high percentage of cases each succeeding attack of *herpes simplex* is followed by an attack of *erythema multiforme*. The many clinical similarities of *herpes simplex* and *erythema multiforme* were tabulated by Forman and Whitwell as follows: (i) their tendency to recur; (ii) their occurrence mostly in spring and autumn; (iii) their provocation by infections, especially the common cold; (iv) their provocation by injection of serum and vaccines; (v) their provocation in some cases by foods to which the patients are sensitive; (vi) their provocation by menstruation; and (vii) their provocation by sunlight. To this group can be added the production of both entities by drugs. For the past ten years repeated vaccination with smallpox vaccine has been utilized as a therapeutic procedure in the prevention of recurrent *herpes simplex*. It has been successful in about 80% of the cases. The vaccination is repeated at intervals of two weeks for four or five times. In the past few years the author has used repeated vaccinations as preventive therapy of *erythema multiforme* associated with *herpes simplex* and also in the treat-

ment of *erythema multiforme* in which no such association could be determined. He considers that the treatment is of definite value in the prevention of recurrences of *erythema multiforme*, especially those preceded by *herpes simplex*.

Accidental Dyeing of the Hair by Face Powder.

A. ROSTENBERG AND D. DAHLE (*Archives of Dermatology and Syphilology*, March, 1945) report a case of accidental dyeing of the hair by face powder. A white woman whose hair, originally a dark brown, had been turning grey for twelve years, noticed that in a few months she had acquired a red streak in the hair of the frontal area. When the authors saw her she had a streak of hair which was coppery red, apparently uniform in appearance and apparently evenly coloured down to the scalp. She denied having used any hair dye or rinse or having had anything applied to the hair in a beauty parlour. The patient worked in a cafeteria which was not air conditioned and which was extremely hot. She perspired freely and was in the habit of running her hand over her face to wipe off the sweat and of continuing to move her hand backward over the front part of her scalp. Samples of the powder that she used were tested for "colour bleeding". The cause of the reddish streak in the hair was apparently the bleeding of a reddish lake into slightly acid perspiration.

UROLOGY.

Primary Vesical Carcinoma.

O. SAPHIR (*Urologic and Cutaneous Review*, November, 1944) has reviewed a series of 51 cases of primary carcinoma of the urinary bladder in which autopsies were performed. Special attention was paid to the type and location of the growth, its relation to the prostate gland or parametrium and the metastases. There were 13 females and 38 males. The youngest patient was forty-six years of age and the eldest seventy-six. This study covers patients observed over many years, and the interval between operation and death varied from one day to twenty years. When the last-mentioned patient died, a carcinoma, grade III, was still present in the bladder and there were no metastases. The majority of patients died within one year of operation. The most common cause of death was pyelonephritis. At autopsy in twelve cases the tumour diffusely infiltrated the bladder wall. It was situated in the anterior wall in one case only, in the dome three times, in the neck of the bladder eight times, around the trigone and posterior wall thirteen times, in the left lateral wall ten times, and in the right lateral wall four times. The prostate gland was invaded in eleven instances. Local metastases were encountered five times and distant metastases sixteen times. The osseous system was involved five times. Of the sixteen cases with distant metastases, twelve occurred in males and four in females. Of these twelve males, the prostate was invaded in nine cases, and in all of the four females the perivesical tissues and parametrium were invaded. The author concludes that, in the estimation of prognosis, it seems that invasion of the prostate or parametrium is of more importance than the histological grading of the tumour.

Excretion Urography after Subcutaneous Injection.

J. H. AND M. F. VASTINE (*Urologic and Cutaneous Review*, April, 1945) give two reasons for their paper: (i) a comparison of urography after subcutaneous and intravenous injection of the medium in twenty cases in children shows clearly that there is no significant difference in diagnostic quality of the films; and (ii) many urologists and radiologists are either unaware of the method in which subcutaneous injection is used, or are unfamiliar with its technique and results. Fluids are withheld for twelve hours before the examination, but a dry meal is given just before the injection, to avoid the formation of gas. A small weal is raised with "Novocain" in the region of each scapular angle, and fifty millilitres of solution are injected into each infraspinous area. The solution is prepared by diluting twenty millilitres of any contrast medium used intravenously with eighty millilitres of normal saline solution. Following injection, the routine is to take an exposure every ten to fifteen minutes; the later exposures depend on the early findings on development. Care must be taken when subcutaneous injections are given not to overlap the kidney region, or the medium may obscure that area.

Uretero-Enterostomy with Ureto-Intubation.

As an adjunct to uretero-enterostomy, S. N. Vose (*The Journal of Urology*, February, 1945) suggests the use of a T-tube in the ureter to prevent urinary stasis due to œdema in the immediate post-operative period. The actual anastomosis is carried out by the Coffey I technique and the T-tube is inserted about one and a half inches above the union, extraperitoneal drainage being provided through a stab wound in the iliac region. It is claimed that this technique is followed by less morbidity, the non-protein nitrogen content of the blood does not rise, nor is there evidence of renal failure or infection.

Ascorbic Acid in Pulmonary Complications of Prostatic Operations.

G. E. SLOTKIN AND R. S. FLETCHER (*The Journal of Urology*, December, 1944) consider bronchopneumonia one of the common, and often fatal, complications of urinary surgery, especially in elderly patients. Most pulmonary complications in such patients are found at autopsy not to be lobar pneumonia, but as so-called "wet chests", due to capillary secretion. Ascorbic acid is found to increase the tonicity of capillaries and has been of great value in alleviating the condition of these patients, causing disappearance of the infiltration and restoration of lung action. For the past five years the authors have used ascorbic acid in the treatment of some forty odd patients who, post-operatively, showed signs of moisture in the lungs, occasionally with some patches of consolidation with rise in temperature and respiration rate. The sputum of this type of patient is mucoid in appearance, sometimes purulent, with a great variety of organisms, but not the true pneumococcus. These lesions are apparently the result of stasis, combined with low-grade infection and an important third factor, capillary permeability, with escape of abnormal amounts of serum into the tissue spaces. In 1942, Wolbach and Bessey stated that the role of ascorbic acid in the body is to maintain supporting tissues of mesenchymal origin, and its deficiency results in lack of maintenance of intercellular substance, allowing, in the case of capillaries, abnormal permeability. In the authors' cases no sulphonamide drugs were given, and the dose of ascorbic acid was 25 milligrammes every six hours till the temperature became normal.

Tumours of the Testis.

C. A. HELLWIG (*Urologic and Cutaneous Review*, November, 1944) has studied fifty malignant tumours of the testis removed at one hospital during the past twenty years. The pre-operative diagnosis is often impossible, but, if malignancy is suspected, orchidectomy is carried out at once. Aspiration biopsy or repeated diagnostic palpation of the tumour is inadvisable. The diagnostic value of the Aschheim-Zondek test is limited, since a negative result to the test does not exclude malignant disease. The value of pre-operative radiation treatment has not been established, while the effect of post-operative radiation, though definite, is not sensational. The difference in clinical cure rates between orchidectomy alone and combined treatment is 13% over five years and only 1·2% over ten years. The five years survival rate in this series was just under 40%. No striking difference in regard to radiosensitivity and duration of disease was evident between solid carcinoma (seminoma type) and adenocarcinoma. The view that all common malignant testicular tumours are of complex histological structure and are derived from one or several germ layers of teratoma is supported by the study of this series of cases.

Calcium and the Urinary Tract.

THE effects of intravenous injection of calcium gluconate on the musculature of the renal pelvis, ureter and bladder have been studied by H. R. Trattner and B. J. Walzak (*The Journal of Urology*, October, 1944). There appears to be an optimal acidity of the urine (pH 5·0 to 6·3) in which the relaxing or antispasmodic effect of the calcium is likely to occur. Without controlled urinary acidity, 40% of patients with ureteral colic were completely relieved; in 30% of cases a spastic condition of the calyces, pelvis or ureter was relaxed, and in more than 50% the bladder was relaxed. When relaxation followed injection defects in urograms due to spasm disappeared. Further, a larger quantity of solution is tolerated without pain.

Renal Complications of Reiter's Disease.

THE triad urethritis, conjunctivitis and arthritis without demonstrable infecting organisms constitute "Reiter's disease". F. H. Colby (*The Journal of Urology*, November, 1944) describes three cases of the condition in which pyelectasis and gross pyuria were present. The course of the disease is uninfluenced by any known therapy, including penicillin. Recurrent eye, joint and urinary symptoms may take place, but permanent disability is rare, although not unknown.

British Medical Association News.

ANNUAL MEETING.

THE annual meeting of the South Australian Branch of the British Medical Association was held at the Verco Theatre, Institute of Medical and Veterinary Science, Adelaide, on June 28, 1945, DR. H. M. JAY, the President, in the chair.

Annual Report of the Council.

The annual report of the Council was adopted on the motion of Dr. G. H. Burnell, seconded by Dr. D. R. W. Cowan. The annual report is as follows.

At the annual general meeting held on June 29, 1944, officers and members of the Council were elected as follows:

President: H. M. Jay.

Vice-President: Brian H. Swift.

Honorary Treasurer: P. T. S. Cherry.

Honorary Medical Secretary: W. J. Betts.

Ordinary Members of Council: L. R. Mallen, E. L. Symons, C. H. Schafer, E. F. West.

Dr. W. J. Betts was called up for service with the Air Force on December 4, 1944. The Council granted him leave of absence, and at a meeting held on December 21, 1944, appointed Dr. R. F. West Acting Honorary Medical Secretary.

At a meeting held on July 6, 1944, the Council appointed the following subcommittees to act during the year:

Scientific: H. M. Jay, K. S. Hetzel, Honorary Medical Secretary.

Contract Practice and Medical Planning: H. M. Jay, R. John Verco, E. L. Symons, C. H. Schafer, F. St. John Poole, L. G. Tassie, L. R. Mallen, A. B. Russell.

Ethics: E. A. H. Russell, E. F. West, B. H. Swift, K. S. Hetzel, P. T. S. Cherry, H. M. Jay, W. J. Betts.

Parliamentary Bills and Publicity: H. M. Jay, E. A. H. Russell, Sir Henry Newland, R. John Verco, P. T. S. Cherry.

Library: H. M. Jay, Sir Henry Newland, K. S. Hetzel.

Rehabilitation: H. M. Jay, Sir Henry Newland, R. John Verco, E. F. West, F. St. John Poole, L. R. Mallen, P. T. S. Cherry, B. H. Swift.

The President, Immediate Past President, Vice-President, Honorary Treasurer and Honorary Medical Secretary are ex-officio members of all subcommittees.

Monthly Scientific Meetings.

As in the past four years, the activities of the Branch in this direction have been curtailed owing to conditions brought about by the war. Every effort, however, in spite of increasing difficulties, has been made by the Council to provide as far as possible scientific meetings, and the attendances have been satisfactory. The Listerian Oration, as in previous years, was suspended, but an outstanding event was the visit of Sir Howard Florey, who accepted the invitation of the Council to address members, and the meeting held on September 28, 1944, attracted a large audience which filled the physics lecture theatre at the university. Advantage was taken at the meeting by the president, on behalf of the Branch, to welcome Sir Howard back to his home State and to congratulate him on the knighthood conferred on him by His Majesty the King in recognition of his work in the interests of medical science.

Another lecture of outstanding interest was that given by Dr. Hilary Roche, medical superintendent of the Austin Hospital for Cancer and Chronic Diseases, Heidelberg, Victoria, who, at the invitation of the Council, addressed members on February 22 last.

In addition to the programme arranged by the Council, members of the Branch were invited to meetings of the Royal Australasian College of Surgeons, the Royal Australasian College of Physicians, and the Australian and New Zealand Association of Radiologists, and a series of lectures arranged by Colonel F. L. Wall, the Deputy Director of Medical Services, South Australian Lines of Communication Area.

The Council desires to place on record its appreciation and thanks to all those who contributed papers *et cetera* and those who in other ways helped to make meetings possible.

The following programme was carried out during the year:

September 28, 1944: Lecture by Sir Howard Florey on "The Development of Penicillin for Medical Use".

October 11, 1944: Clinical meeting at the Children's Hospital and paper by Dr. H. K. Fry on "Puerperal Fever and Public Health".

November 30, 1944: Clinical meeting at Royal Adelaide Hospital.

January 15, 1945: Address by the General Secretary of the Federal Council of the British Medical Association in Australia, Dr. J. G. Hunter, on "Medical Planning and Organization of the Profession".

February 22, 1945: Lecture by Dr. Hilary Roche on "Tuberculosis: Some Observations on its Treatment and Control".

April 26, 1945: Paper by Dr. E. F. West on "Experiences in Army Orthopædic Work".

May 31, 1945: Exhibition of the following films: "Caudal Analgesia" and "Time Factor in the Treatment of Burns".

Members were also invited to the following meetings:

July 12, 1944: Royal Australasian College of Surgeons.

July 27 and September 7, 1944: Series of lectures arranged by the Dean of the Faculty of Medicine and the Deputy Director of Medical Services, South Australian Lines of Communication Area.

September 5, 1944: Lecture on "Penicillin" by Colonel Lowenthal and Captain Perry, arranged by the Deputy Director of Medical Services, South Australian Lines of Communication Area.

November 8, 1944: Royal Australasian College of Surgeons.

March 21, 1945: Combined meeting of the Royal Australasian College of Surgeons and Royal Australasian College of Physicians.

June 22 and June 23, 1945: Meetings of Australian and New Zealand Association of Radiologists.

Membership.

The membership of the Branch is 475, an increase of 16 on the previous year. The number of new members elected was 37, the balance representing deaths, transfers *et cetera*. It is with sincere regret that the Council records the deaths

Attendances at Council and Committee Meetings.	Council.	Scientific.	Contract Practice and Medical Planning.	Ethics.	Parliamentary Bills and Publicity.	Rehabilitation.	Hospital Accommodation for Maternity Cases.	Tuberculosis.	Venereal Diseases Control.
BETTS, W. J.	7	1	—	1	—	—	—	—	—
CHERRY, P. T. S.	21	—	1	1	1	—	3	—	—
HETZEL, K. S.	20	1	—	1	—	—	—	1	1
JAY, H. M.	22	1	5	1	1	1	—	1	1
MALLEN, L. R.	20	—	1	—	—	—	—	—	—
NEWLAND, SIR H. S.	17	—	—	—	1	1	—	—	—
POOLE, F. ST. JOHN	15	—	3	—	—	1	—	—	—
RUSSELL, E. A. H.	20	—	3	1	1	1	1	—	—
RUSSELL, A. B.	18	—	1	—	—	—	—	—	—
SWIFT, B. H.	20	—	1	1	1	—	3	—	1
SCHAFER, C. H.	23	—	5	—	—	—	—	—	—
SYMONS, E. L.	21	—	3	—	—	—	—	—	—
TASSIE, L. G.	16	—	—	—	—	—	—	—	—
VERCO, R. JOHN	21	—	5	1	1	1	3	—	—
WEST, E. F.	22	—	—	1	—	1	—	—	1
WEST, R. F.	12	—	2	—	—	—	—	—	—

Meetings held up to June 7, 1945.

of Dr. J. A. Bonnin, Dr. R. H. Formby (on active service), Dr. H. A. Powell, Dr. J. Clive Sangster (on active service), Dr. W. A. R. Smith (on active service) and Dr. E. J. K. Harbison (on active service).

Representation on Boards et cetera.

Medical Board of South Australia: H. H. E. Russell.

Dental Board of South Australia: J. W. Close.

Nurses' Board of South Australia: A. B. Russell during the absence of L. A. Wilson on active service.

Metropolitan Infectious Diseases Hospital Board: H. H. E. Russell, G. R. West.

Australian Aerial Medical Service Council: E. A. H. Russell.

Australian Red Cross Medical Services Advisory Committee, South Australian Division: E. A. H. Russell, R. John Verco.

State Medical Coordination Committee: E. A. H. Russell.

Central Council of the Association, London: Isaac Jones.

Federal Council of the British Medical Association in Australia: Sir Henry Newland, R. John Verco.

Federal Council Contract Practice Committee: R. John Verco.

National Fitness Council: C. C. Jungfer.

St. John Ambulance Association: H. G. Prest.

Representative of "The Medical Journal of Australia": W. J. Betts.

British Medical Hall Company, Limited, Directorate: G. H. Burnell, F. St. John Poole.

Mothers and Babies' Health Association Council: R. John Verco.

Sections.

Except in one or two instances, owing to the absence of members on active service, meetings have been practically suspended during the war.

Lodge Practice.

There has been no alteration regarding rates and conditions under which lodge practice has been carried on during the year. It is the desire of the Federal Council to finalize the Federal Form of Agreement which will be applicable to all States as soon as possible, and as a result of conferences with representatives of the friendly societies it is hoped that the agreement will be finalized in the near future.

Medical Planning.

Members have been advised from time to time of the various developments that have taken place regarding the intentions of the Federal Government respecting a national health service. The Federal Council appointed a Medical Planning Committee to prepare and present to the Federal Council plans of a medical service embodying the principles of the British Medical Association. In view of the many schemes submitted, the preparation of such plans entails exhaustive inquiry and a great amount of work and time. It is the intention of the Federal Council to issue a brochure for circulation amongst members of the British Medical Association, and also a statement for publication in the Press setting forth its constructive views on the future of medical practice. It has been felt that this action is necessary in order to inform the public of the attitude taken by the profession on the proposals of the Federal Government.

Shortage of Domestic Staff and Nurses for Private Hospitals.

Considerable attention has been given to this matter by the Council during the year. The Government, State Medical Coordination Committee, manpower authorities and the Red Cross Society have been approached in an endeavour to obtain some improvement in a state of affairs which is a matter of grave concern, particularly in respect to the lack of accommodation for maternity cases. The Council, after a conference with the matrons of private hospitals in the metropolitan area, and with a view to assisting the Government to overcome the difficulties existing, forwarded recommendations and suggestions as to how medical and nursing services for maternity can best be improved, which it was considered would greatly improve matters. It, however, appears to be within the province of the manpower authorities, and recent announcements indicate that the authorities are fully aware of the position, and immediate improvement should result. Advice has recently been received from the Prime Minister's department, through the Federal Council, that measures for alleviating the problem of the shortage of nursing personnel and hospital staffs by the utilization of service nurses and members of the auxiliary services have been suggested, which, if adopted, will provide additional service for the civilian community.

Difficulty of Obtaining New and Second-Hand Cars for Doctors.

It is regretted that, although every effort has been made to bring about some improvement, little, if any, change has taken place in regard to obtaining both new and second-hand cars. The Council wrote to the Federal Council and requested that the Federal Government should be approached and the serious outlook in respect to doctors' transport be emphasized, also urging that immediate steps be taken to make cars available for doctors. As a result of a *questionnaire* submitted to doctors some time ago, it was ascertained that the cars in use averaged a mileage of over 50,000 each. The federal transport authorities, through the Federal Council, suggested that doctors should form a pool of motor-cars, and where a doctor had two cars, one should be made available to the pool with a view to assisting a doctor whose car was temporarily out of commission. It was felt, however, that this suggestion was not practicable, and on a request by the Federal Council to state the reasons why the Council considered such an idea impracticable for doctors, a letter was sent setting out fully the views of the Council, and this letter was forwarded to the Federal Government by the Federal Council as embodying the views of all the Branches regarding the matter.

Control of Tuberculosis.

In spite of the efforts of the Council and of individual members, little advance has been made toward definite and concerted action by the authorities in implementing the suggestions put before the Government from time to time. Whilst it is recognized that, under existing circumstances, there are difficulties owing to additional medical and technical personnel not being available, it is felt that the matter is of such importance to the community that immediate steps should be taken to carry out the suggestions made over a period of years. Nothing less than a wholehearted, well-balanced attack from all angles is required. It is the intention of the Council to make a further approach to the Government and stress the urgency of the matter.

Advertising Proprietary Medicines.

Following the action of the Council in requesting the Federal Council to bring under the notice of the Federal Minister of Health the advertisements in regard to patent medicines with a view to regulate medical advertising and to control broadcasting on similar lines to the Newspaper Proprietors Association in England, a committee with its headquarters in Sydney has been formed to deal with this matter.

Sickness and Accident Policy of Insurance Companies.

In response to a request by the Council to the Federal Council that the time was opportune for consideration of sickness and accident policies of insurance companies, advice has been received from the Council of the Fire and Underwriters that a conference would be sought with the representatives of the British Medical Association regarding a general review of specified diseases in the policies issued by insurance companies. Investigations were being made with a view of revising the list at present contained in policies. When the work was further advanced, arrangements would be made for a conference with representatives of the Federal Council of the British Medical Association.

Pharmaceutical Benefits Act.

Members have been fully acquainted of the actions taken by the Federal Council on behalf of the profession. The Government has been advised of the willingness of doctors to cooperate with the Government providing certain essential amendments to the proposals in the interests of the sick are adopted. No advice is yet available as to what amendments the Government intends to introduce when the act is again before Parliament, but it is hoped that conference with the Federal Council will be resumed in respect to the contemplated amendment before this is done. The Government has been assured that the British Medical Association is as sincerely anxious as the Government to give the best possible service to the people of Australia, but it is resolved that cooperation with the Government to that end cannot be achieved at the cost of sacrificing a principle it had always honoured, namely, that a medical practitioner demands that he shall prescribe for his patient the most appropriate medicine his skill dictates. Whilst members have been

advised that the Federal Council advocates a policy of non-cooperation, it has never stated the exact form that policy should take. Members look to the Federal Council for guidance, and if unity is to be achieved it is essential that direction should be given to the Branches in the matter. The Council, at a meeting held on May 24, at the suggestion of the President of the Federal Council, Sir Henry Newland, passed the following resolution:

> That the Federal Council be requested to give direction to all States as to what form non-cooperation in the matter of the *Pharmaceutical Act* should take, and that the matter be treated as urgent.

Members will be advised of future developments as they occur.

Rehabilitation of Medical Officers of the Armed Forces.

The reestablishment of medical officers in practice again at the cessation of the war is still engaging the attention of the Federal Council and other bodies, but at the moment there is some doubt as to what part various bodies are to play regarding the matter, and the Federal Council has been asked to clarify the position. This matter has been before the Council on several occasions during the year. There are many factors involved, of which finance is a most important one, and this aspect has been borne in mind by the Council, and it is anticipated that a satisfactory scheme will be formulated. The *questionnaire* sent to members of the Branch will provide important information for guidance of the Council in future consideration of this matter.

Workmen's Compensation Act.

Members have been advised of the recent amendment to the act, under which additional compensation is provided in respect of medical expenses which are incurred by a workman as a result of his injury. Somewhat similar provisions exist under *Workmen's Compensation Acts* in the other States, and have resulted in agreements being made in Victoria, New South Wales and Western Australia by the Council of the British Medical Association and authorized insurers and members of the Fire and Accident Underwriters' Association. It was suggested by the Fire and Accident Underwriters' Association of South Australia that a similar agreement should be entered into by the British Medical Association in this State, applicable in cases where the medical practitioner looks to the insurer for payment for his services instead of exercising his legal right to look to his patient. The Council made exhaustive inquiries, and reports from the other States indicated that the agreements with the Underwriters' Association had worked very satisfactorily. Negotiations were then entered into with the Underwriters' Association, and agreement reached regarding a schedule of fees approximately similar to those in other States. This schedule has been sent to members. Consideration is now being given to specialist's fees not covered under the agreement. The Council feels that the agreement will prove advantageous to members and will ensure payment for their services where a patient authorizes the insurance company to pay the doctor.

Housing Standards.

At the request of the Director-General of the Ministry of Post-War Reconstruction, the Council considered certain particulars in regard to housing standards, and recommendations made by a subcommittee were approved. A subcommittee of medical women was also appointed and their report was forwarded to the Director-General. Advice has been received that the information will be retained in the research section of the ministry for use in connexion with the Commonwealth policy on housing standards.

Post-Graduate Instruction.

The Council has for some time had under consideration the question of the urgent need of training facilities for medical men returning from the war. The Adelaide Permanent Post-Graduate Committee founded by the Council of the British Medical Association in 1928 and which arranged annual courses for many years, ceased to function during the war. The Council of the University has also explored the whole situation in regard to post-graduate instruction for medical men—conferences took place between representatives of the Council and the University Medical Post-Graduate Committee to consider the fusion of the two medical post-graduate committees, when it was resolved to recommend that the Adelaide Permanent Post-Graduate Committee of the British Medical Association should cease to exist as such, and that the University of Adelaide make itself responsible for post-graduate teaching in medicine by setting up a committee on which the British Medical Association is adequately represented. Also that the funds accumulated by the Permanent Post-Graduate Committee of the British Medical Association should be handed over to the University Medical Post-Graduate Committee as the basis of a separate fund to be administered by the university for post-graduate studies in medicine. These recommendations were approved by the Council, and letters of appreciation were sent to members of the Permanent Committee for the excellent services rendered to that body.

Closing of Butchers' Shops on Saturday Mornings.

The Council was asked by the Meat and Allied Trades Federation of Australia for its view in regard to the closing of butchers' shops on Saturday mornings, and were advised that in the opinion of the Council it would be detrimental to the health of the community if meat could not be purchased on Saturday mornings.

Health Policy of the Federal Government: Health Subsidy.

The scheme of the Government, with the consequent abolition of the means test, has been under review, and the Federal Council was advised that in the opinion of the Council, in view of the abolition of the means test, on general principles, the honorary system at hospitals must disappear, but the Council is not prepared to consider rates of remuneration at the present time until it is known what the terms of medical services proposed by the Federal Government are. At a meeting of the Federal Council held on September 25 last, a resolution was passed: "That no honorary medical officer should be expected to give honorary service to any patient in a public ward who is able to pay for private or intermediate treatment."

Federal Medical War Relief Fund.

The Council has approved of the establishment of this fund and has promised to give every assistance in the matter.

Penicillin.

Correspondence has passed between the Director-General of Health and the Federal Council in reference to the liability of a medical practitioner to the department to pay for penicillin when ordered for a patient, if he does not make other arrangements for ensuring that the liability is accepted by some other person. Advice was sent to the Federal Council that in the opinion of the South Australian Branch the medical practitioner should not be held liable for the payment for penicillin. The Director-General of Health has since advised that arrangements had been made to permit distribution of penicillin through any retail chemist, who will transmit the doctor's order and schedule, arrange for the collection of the penicillin on behalf of the doctor, and accept the responsibility of payment.

Doctors Prescribing Proprietary Lines.

A request was received from the South Australian Friendly Societies' Association that doctors, whenever possible, should supply to a lodge patient a prescription, which, in the opinion of the doctor, will have the same beneficial effect as a proprietary medicine. The Friendly Societies' Association was advised that when the same benefit is derived from a written prescription, this should be given in preference to prescribing proprietary lines. The attending doctor, however, must be free to prescribe whatever in his opinion is best for the patient at the time.

Australian Red Cross Society: Blood Transfusion Service.

The Council has given its unqualified approval of the scheme of the society outlined in a letter from the society dated December 22, 1944.

Virus Infections in Pregnancy.

The Council is pursuing further inquiries in cooperation with the special committee which instigated the investigation, and suggestions for securing further information have been forwarded to the Chief Secretary.

Admission to Membership of Alien Medical Practitioners who have become Naturalized.

It has been decided in conformity with the views of other States to admit to membership of the Branch alien medical practitioners who have become naturalized.

Maternity Services and Obstetrical Teaching.

The Council has recently appointed a special subcommittee to inquire into the whole subject of maternal services and obstetrical teaching in this State and report to the Council.

Honours and Awards to Members.

The Council tenders its congratulations to the following members on the honour conferred on them: Sir Arthur Cudmore, K.B., C.M.G.; Surgeon Lieutenant-Commander J. E. Hughes, mentioned in dispatches; Surgeon Lieutenant M. D. Dawson, mentioned in dispatches; Colonel F. H. Beare, E.D., Companion of the Military Division of the Most Honourable Order of the Bath; Lieutenant-Colonel R. T. Binns, Member of the Military Division of the Most Excellent Order of the British Empire; Lieutenant-Colonel J. E. Porter, M.M., Australian Efficiency Decoration; Colonel B. S. Hanson, D.S.O., O.B.E., mentioned in dispatches; Lieutenant-Colonel C. B. Sangster, mentioned in dispatches; Lieutenant-Colonel S. J. Douglas, mentioned in dispatches; Lieutenant-Colonel M. R. Gold, mentioned in dispatches; Captain J. H. Petchell, mentioned in dispatches; C. E. C. Wilson, Commander of the Venerable Order of St. John of Jerusalem; H. H. E. Russell, Commander of the Venerable Order of St. John of Jerusalem; E. A. H. Russell, Officer of the Venerable Order of St. John of Jerusalem; Frank S. Hone, Serving Brother of the Venerable Order of St. John of Jerusalem; R. F. Matters, Serving Brother of the Venerable Order of St. John of Jerusalem.

Members who have Completed Fifty Years' Membership.

Congratulations are extended to the following, who have completed fifty years' membership of the Association: Sir Arthur Cudmore, Dr. G. A. Fischer and Dr. Frank S. Hone.

Circulars Sent by the Council to Members.

The Council desires to emphasize the importance of members reading the circulars issued at regular intervals. Apart from general meetings, called to consider certain matters, which, owing to existing circumstances, do not result in representative gatherings, these circulars are the only means of conveying information to members. Reports received from time to time indicate that some members do not read the circulars sent, and that they know nothing or little of what is being done, and blame the Council for this. Whilst it is not possible to pass on information when matters are *sub judice* and negotiations with the Federal Government and other bodies are being carried on, whenever finality has been reached, the necessary information is passed on to members per medium of the monthly circular. As momentous decisions affecting the medical profession will be made in the near future, the need for members to make themselves familiar with the information supplied to them from time to time is again stressed. The Council is anxious that there shall be no lack of interest or apathy shown by members in matters vitally affecting their interests, and which the Council endeavours at all times to protect.

The above report is a summary only, and represents some of the activities of the Council during the year. Many other matters have received the attention of members, and a reference to the number of meetings held on the second page of the report will give some indication of the time involved and service given by members of the Council in the interests of the Branch.

We record with thankfulness the termination of the European war during the period covered by this report and hope and pray that when June 30, 1946, comes we may have seen the end of hostilities in the Pacific.

I wish to place on record my great appreciation of the help and guidance given me by the Council. At considerable personal inconvenience they have attended a very large number of meetings and have always given their best endeavour to the task of conducting the work of the Branch. I am deeply in their debt.

Our lay secretary, Mr. Walter C. Dobbie, has added one more year of enthusiastic work to his record. It is difficult for me to imagine what this Branch would do without him, so completely has he identified himself with the work and aspirations of the medical profession. May he long be with us to help and guide our policies.

(Signed) H. M. JAY, President.

Financial Statements.

The financial statements were received and adopted on the motion of Dr. P. T. S. Cherry, seconded by Dr. R. J. Verco. The financial statements are published herewith.

Election of Office-Bearers.

The President announced that the following office-bearers had been elected for the ensuing twelve months:

President: Dr. Brian H. Swift.
Vice-President: Dr. L. R. Mallen.
Honorary Treasurer: Dr. P. T. S. Cherry.
Honorary Secretary: Dr. R. F. West.
Members of Council: Dr. F. F. Heddle and Dr. G. Wien Smith (country members), Dr. Gilbert Brown, Dr. J. R. Cornish, Dr. N. R. Bennett.

Messrs. Muecke, Pickering and Mitton were appointed auditors for the ensuing year.

Income and Expenditure Account for the Year ended December 31, 1944.

	£	s.	d.	£	s.	d.
To British Medical Association, London	620	9	6			
,, THE MEDICAL JOURNAL OF AUSTRALIA	399	10	0			
				1,019	19	6
,, Library Subscription				89	15	0
,, Federal Council Capitation Fee				292	10	0
,, Postages and Telegrams				72	2	10
,, Stationery and Printing				149	17	3
,, Telephone				34	13	2
,, Rent				50	6	9
,, Salaries				642	0	0
,, Depreciation				8	0	0
,, General Expenses				94	8	9
,, Surplus Income over Expenditure for year transferred to General Fund				44	12	2
				£2,498	5	5

	£	s.	d.	£	s.	d.
By Subscriptions—						
City	1,916	13	7			
Country	538	9	0			
Accrued	25	19	0			
				2,481	1	7
,, Interest				12	5	5
,, Medical Certificate Books				4	18	5
				£2,498	5	5

Library Fund Account, December 31, 1944.

	£	s.	d.
To University	150	0	0
,, Depreciation	4	0	0
,, Balance	62	5	9
	£216	5	9

	£	s.	d.
By Balance brought down, December 31, 1943	120	12	8
,, Interest	5	18	1
,, Subscriptions	89	15	0
	£216	5	9

General Fund Account.

	£	s.	d.
To Account written off	123	3	7
,, Balance	2,829	10	11
	£2,952	14	6

	£	s.	d.
By Balance brought down, December 31, 1943	2,858	2	4
,, British Medical Hall Co. Ltd.—Shares donated	50	0	0
,, Surplus Income over Expenditure for year	44	12	2
	£2,952	14	6

Balance Sheet as at December 31, 1944.

LIABILITIES.	£ s. d.	£ s. d.
Sundry Creditors—		
General	117 17 5	
British Medical Association, London	25 10 0	
THE MEDICAL JOURNAL OF AUSTRALIA	18 0 0	
		161 7 5
Subscriptions in Advance		6 17 0
		168 4 5
Lister Oration Fund (invested in Savings Bank as per contra)	61 2 4	
National Health Insurance Fund (invested as per contra—	364 7 7	
Commonwealth Loan £300 0 0		
Savings Bank of South Australia £64 7 7		
£364 7 7)		
Library Fund	62 5 9	
British Medical Hall Co. Ltd.—		
Dividend Account	304 0 0	
Federal Council Organization Fund	25 13 0	
		817 8 8
General Fund—		
Balance, January 1, 1944	2,858 2 4	
Less Amounts written off	123 3 7	
	2,734 18 9	
Add Surplus Income over Expenditure for year	44 12 2	
Increase in shareholding in British Medical Hall Co. Ltd.	50 0 0	
		2,829 10 11
		£3,815 4 0

ASSETS.	£ s. d.	£ s. d.
Plant and Fittings	47 0 0	
Library Account—		
Delineascope (*less* Depreciation)	9 0 0	
Projector (*less* Depreciation)	13 10 0	
Lister Medals and Dies (*less* Depreciation)	9 0 0	
		78 10 0
British Medical Hall Co. Ltd.—Share Account		2,630 0 0
Stocks on Hand—		
Hospital Forms	15 7	
Medical Certificate Books	8 10 2	
Stationery	50 0 0	
		59 5 9
Subscriptions in Arrear	25 19 0	
Sundry Debtors—		
General	57 0 7	
British Medical Hall Co. Ltd.	123 10 10	
		206 10 5
Special Accounts—		
Savings Bank of South Australia—Library Account	119 9 9	
Savings Bank of South Australia—Building Account	239 10 0	
Savings Bank of South Australia—Lister Oration Fund	61 2 4	
Savings Bank of South Australia—National Health Insurance Fund	64 7 7	
Commonwealth Loan—National Health Insurance Fund	300 0 0	
		784 9 8
Cash—		
Savings Bank of South Australia	40 7 1	
Commonwealth Savings Bank	3 2 1	
National Bank of Australasia Ltd.—Current Account	4 15 0	
Cash on Hand	8 4 0	
		56 8 2
		£3,815 4 0

WALTER C. DOBBIE, Secretary. PERCIVAL T. S. CHERRY, Honorary Treasurer.

We hereby report:

(1) That we have examined the Books and Accounts of the South Australian Branch of the British Medical Association, Incorporated, for the year ended December 31, 1944.

(2) That we have received all the information and explanations we have required.

(3) That in our opinion the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the affairs of the Branch as at December 31, 1944, according to the best of our information, the explanations given us, and as shown by the books produced.

Adelaide,
March 16, 1945.

MUECKE, PICKERING AND MITTON,
Chartered Accountants (Australia), Auditors.

Induction of President.

Dr. H. M. Jay introduced Dr. Brian H. Swift as the President for the coming year, and, having invested him with the President's badge of office, vacated the chair in his favour.

Retiring President's Address.

Dr. H. M. Jay read his president's address (see page 165). A vote of thanks to Dr. Jay for his address was carried on the motion of Dr. E. Britten Jones, seconded by Dr. L. C. Lindon.

Vote of Thanks.

On the motion of the president a vote of thanks to Mr. W. C. Dobbie, the lay secretary, for his work during the year was carried with acclamation.

Correspondence.

AUSTRALIAN RESEARCH IN INDUSTRY AND MEDICINE.

SIR: In your leading article of July 21, 1945, concerning "Australian Research in Industry and Medicine" you refer to the excellent research work that is being carried out in connexion with industry, and contrast this with the parsimonious way in which medical research is handled in this country.

The time is overdue when we should have a medical research council or institute in Australia, founded and managed much on the same lines as the Medical Research Council in England. As matters stand today there is very little opportunity or incentive for a medical research worker to remain in this country and we are continually losing our best men to overseas institutes where they find full facilities for their work. Conversely, there are no facilities in Australia to attract good men here from other countries, and this country is failing to make those adequate contributions to medical science of which she is really capable and in some respects specially fitted for, but is lacking in necessary facilities.

Our universities are becoming mere technical schools, as the professorial and teaching staffs are overburdened with routine teaching and have no time for quiet work in the fields of research in their particular subjects, and consequently the number of young men fitted or trained for research must diminish. The financial reward of a research worker is really farcical when one considers the years of training a graduate must have before he is capable of undertaking such work; yet how many can get a commencing salary of more than £300 to £400 *per annum*?

Enormous fields are opening up in many directions which must assume great importance to the welfare of Australian citizens in the near future. The war has brought home to us how little we really knew regarding tropical diseases and their control.

A "Medical Research Council" or "National Institute for Medical Research" (the name is relatively immaterial) is long overdue to carry out research work in such subjects as biochemistry, biophysics, microbiology, tropical medicine, pharmacology, physiology, experimental pathology, chemotherapy, and perhaps in other directions. It must, however, be adequately housed with all necessary apparatus and facilities and be controlled by a council composed in the main by research workers and under the direction of an outstanding personality in the field of medicine.

It is to be hoped that post-war reconstruction plans will allow of the establishment of such a council or institute divorced from political control.

Yours, etc.,

HUGH R. G. POATE.

225, Macquarie Street,
Sydney,
July 26, 1945.

PHYSIOLOGICAL CONSIDERATIONS IN VASCULAR SURGERY.

SIR: Mr. V. J. Kinsella need not be worried so much about limbs packed in ice as he is about his broad beans. The frost-covered beans are in great danger of having their vitality irretrievably, wholly or partially destroyed. This sad end does not, in my experience, meet limbs packed in ice, at least in ones that are immersed in ice for what we might call therapeutic times.

I have had a modicum of experience in using ice anæsthesia for amputations. In regard to five lower limbs and one upper limb amputated under ice anæsthesia, I have not seen deleterious effects from the ice. Without being able to quote my authority, frostbite does not take place with ice packing, providing no chemical, such as sodium chloride, has been added to the ice to achieve lower temperatures. Indeed, with stock ice packing of limbs, the tissues in amputees are exceedingly healthy, to my great surprise even in cases of senile and diabetic gangrene. Some recent work shows that ice, if used for very long periods, gravely damages some of the tissues, especially the nerves. The available literature and my own experience stress the fact that at least where it is used only for three to three and a half hours, no harm results. It is pleasantly astonishing to note that in these cases where a tourniquet has been used for three hours with ice anæsthesia, there has been no sensory paralysis, no palsy of muscles, and no "frostbite".

I am aware that the correspondence to which Mr. Kinsella refers does not deal with ice anæsthesia, but as this method has received some jolts lately—I refer to gas gangrene infection of the ice—I thought it well not to have the method more shunned than it need be, for it has a definite place in surgery. There is a certain charm about an amputation operation, where the method of anæsthesia enables one to do it without any reaction in the patient whatever.

Yours, etc.,

JOHN R. S. LAHZ.

Ballow Chambers,
Wickham Terrace,
Brisbane.
July 25, 1945.

University Intelligence.

THE UNIVERSITY OF MELBOURNE.

NUFFIELD MEDICAL ENDOWMENT.

THE following announcement is published at the request of the Registrar of the University of Melbourne.

The University of Melbourne has the right under Lord Nuffield's scheme for the endowment of demonstratorships and clinical assistantships for Dominion university graduates at the Oxford University Medical School to nominate a clinical assistant for appointment in October, 1945, in the department of orthopædic surgery. The assistant's duties will include work on the pathology and surgery of the peripheral nervous system with general orthopædic and experimental work.

Members of the staff or graduates of the university who wish to be nominated are invited to apply to the Registrar, University of Melbourne, before August 31, 1945.

To be eligible for nomination the candidate must: (i) hold a medical qualification by virtue of his being a medical graduate of a university in Australia, New Zealand or South Africa; (ii) have had experience in research; (iii) intend to return on termination of his appointment to Australia for at least five years' work of a like nature to that carried out during the appointment.

The appointment is for three years and the emoluments are £400 sterling *per annum* in the case of a woman or of an unmarried man, and £600 sterling *per annum* in the case of a married man, payable quarterly in advance, save that the last such instalment is payable in arrear and only on return to Australia or New Zealand. The sum of £150 is also provided for travelling expenses, one-half to be paid on appointment and the remaining half on termination of the appointment. A person appointed will not be permitted to enter for any professional examination except with the consent of the head of his department.

Post-Graduate Work.

FORTHCOMING MEETINGS AT SYDNEY.

THE New South Wales Post-Graduate Committee in Medicine announces the following activities:

Film Programme.—Two sound films on anæsthesia will be shown at the Stawell Memorial Hall, 145, Macquarie Street, Sydney, at 4.15 o'clock p.m. on Wednesday, August 22. All civilian medical practitioners and medical officers of the services are invited to attend.

Practical Course in Medicine.—A practical course in medicine will be held in Sydney from September 3 to 22, inclusive. Attendance will be limited to twenty, and preference will be given to members of the correspondence course in medicine who are candidates for the September examination for membership of the Royal Australasian College of Physicians. The fee for the course is £7 7s.

Lectures by Professor F. M. Burnet.—Professor Burnet, Director of the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne, will deliver a series of lectures on "The Background of Infectious Diseases in Man" on September 3, at 8.15 o'clock p.m., and on September 5, 7, 10, 12 and 14, at 4.30 o'clock p.m., in the Stawell Memorial Hall. The lectures are included in the annual course conducted by the Post-Graduate Committee, the fee for which is £1 1s. All civilian medical practitioners and medical officers of the services are invited to attend.

Full details concerning the above programmes are available from the Secretary of the Post-Graduate Committee in Medicine, 131, Macquarie Street, Sydney. Telephone: B 4606.

National Emergency Measures.

THE DOSAGE OF SULPHAMERAZINE.

THE following information on sulphamerazine has been sent to medical practitioners by the chairman of the Medical Equipment Control Committee. For the sake of those who have not seen it, the statement is published hereunder.

Sulphamerazine is being produced in Australia, supplies have been distributed throughout the drug trade and are available on prescription. This drug is equivalent therapeutically to sulphadiazine; the blood concentration, however, is maintained for a longer period than with sulphadiazine, and in consequence there is an important variation in dosage.

This variation is set out in a folder supplied with every original package of the drug. If the drug is ordered in quantities of less than 25 tablets the original package will be broken and the dosage information may not be supplied.

Since the drug is slowly excreted by the kidneys and not rapidly destroyed within the body, its blood concentration is well maintained. In consequence it is not necessary to give sulphamerazine more often than twice in the 24 hours.

It is suggested that the following table of dosage be adopted:

Day.	Number of Doses.	Amount.
First	First dose	4G.—8 tablets
	Second dose	2G.—4 tablets
Second	First dose	2G.—4 tablets
	Second dose	2G.—4 tablets
Third	First dose	2G.—4 tablets
	Second dose	2G.—4 tablets
Fourth	First dose	2G.—4 tablets
	Second dose	2G.—4 tablets
Fifth	First dose	1G.—2 tablets
	Second dose	1G.—2 tablets
	Maintenance dose where indicated	1G. daily

For children a suitable dosage is indicated by the use of Clark's formula:

$$\text{Adult dose} \times \frac{\text{body weight in pounds}}{150}$$

It is to be noted that in most cases the stated dosage will suffice, but in severe cases such as meningitis, fulminating streptococcal infections or severe pneumonias it may be increased at the discretion of the physician.

The tablets (0·5G.) should be given twice daily after food, crushed up in the mouth and washed down with a glass full of water. As is the case with other members of the sulphonamide group, fluids must be given freely during the administration of this drug, so that two to four pints of urine are passed daily.

Naval, Military and Air Force.

CASUALTIES.

ACCORDING to the casualty list received on August 1, 1945, Lieutenant-Colonel A. H. Powell, Armidale, New South Wales, has been removed from the "seriously ill" list.

According to the casualty list received on August 1, 1945, Colonel J. E. Gillespie, East Malvern, Victoria, has been placed on the "dangerously ill" list.

Medical Appointments.

Under the provisions of the *Quarantine Act*, 1908-1924, Dr. Norman Laidman Dodd has been appointed deputy quarantine officer at Melbourne, Victoria; Dr. Richard Howard Cowling has been appointed deputy quarantine officer at Melbourne, Victoria; and Dr. John Breinl has been appointed deputy quarantine officer at Townsville, Queensland.

Obituary.

FREDERICK JOHN BRIDGES.

WE regret to announce the death of Dr. Frederick John Bridges, which occurred on July 30, 1945, at Sydney.

Nominations and Elections.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

Davis, Neville Coleman, provisional registration 1945 (Univ. Sydney), The Crescent, Pennant Hills.

The undermentioned has applied for election as a member of the Tasmanian Branch of the British Medical Association:

Droulers, John-Paul Maurice, M.B., B.S., 1944 (Univ. Sydney), Burnie, Tasmania.

Books Received.

"Fractures and Orthopædic Surgery for Nurses and Masseuses", by Arthur Naylor, Ch.M., M.B., M.Sc., F.R.C.S. (England), F.R.C.S. (Edinburgh), with a foreword by Ernest Finch, M.D., M.S. (London), F.R.C.S. (England); 1945. Edinburgh: E. and S. Livingstone Limited. 8½" × 5½", pp. 300, with 243 illustrations. Price: 16s. net.

"A Text-Book of Surgical Pathology", by Charles F. W. Illingworth, M.D., Ch.M., F.R.C.S. (Edinburgh), and Bruce M. Dick, M.B., F.R.C.S. (Edinburgh); Fifth Edition; 1945. London: J. and A. Churchill Limited. 9½" × 6", pp. 736, with 306 illustrations. Price: 42s.

"Massage and Medical Gymnastics", by Mary V. Lace, with a foreword by James Mennell, M.A., M.D., B.C.; Third Edition; 1945. London: J. and A. Churchill Limited. 8" × 5½", pp. 255, with 126 illustrations. Price: 12s. 6d.

"The Premature Baby", by V. Mary Crosse, M.D. (London), D.P.H., M.M.S.A., D.R.C.O.G., with a foreword by Leonard G. Parsons, M.D., F.R.C.P., F.R.C.O.G.; 1945. London: J. and A. Churchill Limited. 8" × 5½", pp. 164, with 14 illustrations. Price: 10s. 6d.

Diary for the Month.

AUG. 13.—Victorian Branch, B.M.A.: Hospital Subcommittee.
AUG. 13.—Victorian Branch, B.M.A.: Finance, House and Library Subcommittee.
AUG. 14.—Tasmanian Branch, B.M.A.: Ordinary Meeting.
AUG. 14.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
AUG. 14.—Victorian Branch, B.M.A.: Organization Subcommittee.
AUG. 15.—Western Australian Branch, B.M.A.: General Meeting.
AUG. 16.—Victorian Branch, B.M.A.: Executive Committee.
AUG. 16.—South Australian Branch, B.M.A.: Council Meeting.
AUG. 21.—New South Wales Branch, B.M.A.: Medical Politics Committee.
AUG. 22.—Victorian Branch, B.M.A.: Council Meeting.
AUG. 23.—New South Wales Branch, B.M.A.: Clinical Meeting.
AUG. 24.—Queensland Branch, B.M.A.: Council Meeting.
AUG. 28.—New South Wales Branch, B.M.A.: Ethics Committee.
AUG. 30.—New South Wales Branch, B.M.A.: Branch Meeting.
SEPT. 4.—New South Wales Branch, B.M.A.: Organization and Science Committee.
SEPT. 5.—Western Australian Branch, B.M.A.: Council Meeting.
SEPT. 5.—Victorian Branch, B.M.A.: Branch Meeting.
SEPT. 6.—New South Wales Branch, B.M.A.: Special Groups Committee.
SEPT. 6.—South Australian Branch, B.M.A.: Council Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phœnix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

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